

Mixed Analyte Performance Evaluation Program

Water Sample MAPEP-99-W7
Performance Report

July 6, 2000

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Radiological and Environmental Sciences Laboratory
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MAPEP-99-W7 Performance Report

Summary

The MAPEP-99-W7 water sample was distributed to eighty-eight (88) radiological/stable inorganic participating laboratories and thirty-one (31) semi-volatile organic laboratories in January 2000. The water sample contained the following stable inorganic, radiological and semi-volatile organic target analytes.

| | | | | |
|--------------------------|--------------------------|--------------------------|------------------------|------------------------|
| ²⁴¹ Americium | ²³⁸ Plutonium | ²³⁹ Plutonium | ²³⁴ Uranium | ²³⁸ Uranium |
| ⁵⁷ Cobalt | ¹³⁷ Cesium | ⁵⁴ Manganese | ⁶⁵ Zinc | ⁶⁰ Cobalt |
| ⁵⁵ Iron | ⁶³ Nickel | ⁹⁰ Strontium | | |
| Arsenic | Barium | Beryllium | Cadmium | Selenium |
| Silver | Thallium | Vanadium | Zinc | |
| 1,2,4-Trichlorobenzene | Di-n-butylphthalate | Naphthalene | 2,4-Dimethylphenol | 2-Chlorophenol |
| 1,3-Dichlorobenzene | 2,4-Dichlorophenol | Pyrene | 2,6-Dinitrotoluene | Anthracene |
| Benzo(a)anthracene | Diethylphthalate | Phenol | 2,4-Dinitrophenol | Fluoranthene |
| 2,6-Dichlorophenol | 2,4-Dinitrotoluene | | | |

Antimony, Chromium, Lead, Nickel, Copper, and Plutonium-239 were included in the MAPEP-99-W7 Sample Description and the analysis request but not added to the PE sample. These modifications were used to determine if any laboratories reported false positive results for these analytes. General classification of semi-volatile organic compounds was used in the sample description for determination of false positives and false negatives in the reporting of the target compounds. Cs-134 was added to the PE sample, but was not included in the sample description.

Eleven (11) laboratories of the original 88 laboratories receiving the radiological/stable inorganic MAPEP-99-W7 sample did not return data for this study. Of the eleven laboratories, four (4) foreign participants were unable to return results for inclusion in this report. Two of the original 31 laboratories receiving the organic MAPEP-99-W7 sample did not return data for the organic study. Four laboratories dropped participation in MAPEP or closed down. Appendix A of this report identifies the MAPEP participants and their reporting status for this study.

The MAPEP studies have generated sufficient historical data to examine past performance in MAPEP. As a result of historical performance review, nine (9) laboratories have been sent letters of concern pointing out potential quality issues that they may wish to address. These letters were sent to laboratories that demonstrated a consistent pattern of performance that was at the 'Not Acceptable' or 'Warning' level for any single analyte across multiple MAPEP sample distributions.

MAPEP-99-W7 Performance Report

Mixed Analyte Performance Evaluation Program water sample MAPEP-99-W7 was distributed in January 2000 for the determination of semi-volatile organic target analytes (thirty-one (31) participants) and radiological and/or stable inorganic constituents (eighty-eight (88) participants). Radiological analyses were performed with standard alpha, beta, and gamma detection methods. In addition, organic and inorganic constituents were determined utilizing U.S. EPA SW-846 methods. A total of seventy-seven (77) laboratories reported results; each analyzed a one-liter sample. The laboratory data and performance evaluation results are provided in this report.

SAMPLE PREPARATION AND DISTRIBUTION

Participants

MAPEP participants are identified by a unique laboratory code. The cross-references for these laboratory codes are found in Appendix A. Appendix A also contains laboratory address information and serves as a list of participants that are consistently requesting MAPEP samples.

Sample Description - Radiological and Stable Inorganic Analytes

Natural groundwater pumped from the Snake River aquifer was used for sample preparation. Analyses for background levels of all the targeted radiological and stable inorganic analytes were performed. The nitric acid used for the sample preservation was high quality double distilled. Solutions of the elements and radionuclides used in the preparation of MAPEP-99-W7 were obtained from vendors who provided documentation showing that the concentration of each constituent was traceable to the National Institute of Standards and Technology (NIST). The sample was prepared in an acid-washed polyethylene carboy with a dispensing spigot near the bottom of the container. A total volume of 150 liters was prepared. This included sufficient samples for verification, stability testing and ninety (90) samples for distribution to MAPEP participants. RESL is directly traceable to the National Institute of Standards & Technology (NIST) through participation in the National Analytical Management Program's (NAMP) Radiological Traceability Program.

Sample Description - Semi-volatile Organic Analytes

Tap water from the Idaho National Engineering and Environmental Laboratory was used for sample preparation. Initial analysis for background levels of semi-volatile analytes was performed. One liter of water was placed in each of forty-eight (48) one-liter, precleaned sample bottles. One milliliter of 0.01% sodium thiosulfate was added to each sample. Each bottle was spiked with a certified, custom made semi-volatile organic standard using a Hamilton (No. 81165) 250 microliter glass syringe. This included sufficient samples for characterization and thirty-one (31) samples for distribution to domestic MAPEP participants. The four foreign laboratories were each sent 1.0 milliliters of the spiking solution in flame sealed vials along with directions for spiking a water sample to simulate the MAPEP-99-W7 water study.

MAPEP-99-W7 Reference Values

Reference values and uncertainties for this study can be found in Appendix D. The uncertainties for the radiological and stable inorganic reference values incorporate the total propagated uncertainty associated with the NIST traceable standard and the sample preparation methodology. The uncertainties are reported at one standard deviation. The reference time for radioactive decay was November 1, 1999, 1200 Mountain Standard Time (MST).

The reference value for each organic target analyte was determined as the biweight mean of all the data for that analyte. Therefore, MAPEP feels it is appropriate to express the uncertainty of the reference value using the 95% confidence interval for the mean. This calculation is analogous to the classical confidence interval for the population mean.

$$T_{bi} \pm \left(t_{(0.95,n-1)} \right) * \frac{S_{bi}}{\sqrt{n}}$$

Where T_{bi} = biweight mean

S_{bi} = biweight standard deviation

n = number of observations

$t_{(0.95,n-1)}$ = Student's t value at the 95% confidence interval and n-1 degrees of freedom

LABORATORY RESULTS

Data Treatment

The data received from the laboratories are provided in Appendices B and C. Estimates of the mean and standard deviation are calculated using traditional statistical calculations. The radiological and stable inorganic data outside the 30% acceptance criteria are not included in the mean and standard deviation calculations.

The Statistical Summary in Appendix B shows the overall performance of the seventy-seven (77) reporting laboratories for each of the 39 analytes. In this summary, the ' $T_{(1)}$ ' column displays the total number of laboratories reporting data for a particular analyte. The ' $A_{(2)}$ ' column displays the total number of laboratories with acceptable data that were used to develop the grand mean and standard deviation in the subsequent columns. The Acceptance Range identifies the $\pm 30\%$ bias values that were used to delineate acceptable performance.

Performance reports for each laboratory follow the Statistical Summary. These reports are arranged by laboratory code in alphabetical order. The reference value for each analyte, the reported value, and the performance evaluation are presented. The acceptance criteria used for this performance evaluation are defined in Table 1.

Table 1. Acceptance criteria.

| Flag | Meaning | Criteria for Radiological and Inorganic Analytes | Criteria for Organics Analytes |
|------|-------------------------|--|---|
| "A" | Acceptable | Bias $\leq 20\%$ | Absolute value of Z-score ≤ 2.0 |
| "W" | Acceptable with Warning | $20\% < \text{Bias} \leq 30\%$ | Absolute value of $2.0 < \text{Z-score} \leq 3.0$ |
| "N" | Not Acceptable | Bias $> 30\%$ | Absolute value of Z-score > 3.0 |

The Uncertainty Flag observed in the last column of these reports will be either a 'L' for potentially low or 'H' for potentially high. The Uncertainty Flag is utilized in this program for information only.

Results for this study are graphically presented in Appendix C. The data for each analyte are plotted against the reference value and the grand mean. The laboratory codes are displayed along the X-axis. The error bars associated with each data point are the individual uncertainties for the measurement reported by the laboratory. Laboratories that did not report data for a particular analyte are not plotted or labeled.

Due to analyte concentrations, laboratory uncertainties and data scatter, the Y-axis varies widely throughout the graphs. Utilization of visual data scatter without consideration for the concentration range displayed may lead a reviewer to a false conclusion concerning sample homogeneity or inaccuracy of a data set. In most cases, the graphs have been scaled to present the best visual picture of the data set.

Radiological Analytes

The MAPEP program uses false positive testing on a routine basis to identify laboratory results that indicate the presence of a particular radionuclide in a MAPEP sample when, in fact, the actual activity of the nuclide is far below the detection limit of the measurement. For this study, a false positive test was performed for Pu-239/240. Acceptable ("A") performance was indicated when the range encompassing the result, plus or minus the uncertainty at three standard deviations, included zero (e.g., 0.5 +/- 0.2; range of -0.1 to 1.1). Not Acceptable ("N") performance was demonstrated if a statistically positive result was reported. A statistically positive result was indicated when the range encompassing the result, plus or minus the uncertainty at three standard deviations, did not include zero (e.g., 2.5 +/- 0.2; range 1.9 to 3.1). Thirteen (13) of the 37 laboratories (35%) that reported results for Pu-239/240 reported a false positive and were flagged for Not Acceptable ("N") performance.

MAPEP routinely varies the isotopic ratios of the radionuclides present in the MAPEP samples. This applies especially to the uranium isotopes. By using natural, enriched, and depleted uranium, MAPEP can identify biases associated with different methodologies and evaluate assumptions of equilibrium when U-238 is determined by mass and not activity. The MAPEP-99-W6 water sample contained depleted uranium. Natural uranium was added to the MAPEP-99-W7 water sample. Five laboratories were flagged for Not Acceptable performance in the determination of U-238 and eight showed Not Acceptable performance for U-234. All laboratories that failed the U-238 determination also failed U-234. These determinations were made utilizing alpha spectrometry.

Approximately 40 laboratories reported results for the alpha-emitting radionuclides. Most laboratories used alpha spectrometry for the analytical method and a sample size of 30 mL or greater. Laboratories demonstrated relatively poor performance on Plutonium analyses, with Not Acceptable performance in 11 of 45 laboratories reporting results. Additionally, there was a high rate of false positive results for Pu-239/240 as cited above. Other laboratory results for the alpha-emitting radionuclides generally showed a positive bias when compared to the reference values.

Gamma analyses were requested for five radionuclides that emitted gamma-rays across the energy spectrum. Cs-134 was added to the sample but was not included in the sample description. All of the 24 laboratories that reported Cs-134 results showed Acceptable performance. Laboratory results for Cs-134, Cs-137, and Co-57 showed a negative bias when compared to the reference values while the results for Mn-54, Zn-65, and Co-60 showed a positive bias. Laboratories typically showed Acceptable performance for all of the targeted gamma-emitting radionuclides.

The targeted beta-emitting radionuclides were Sr-90, Fe-55, and Ni-63. Most laboratories used gas flow proportional counting for Sr-90 analyses and a sample size of 30 mL or greater. Four of the 33 laboratories

that reported Sr-90 results showed Not Acceptable performance. The bias was typically low. Laboratory performance for Fe-55 and Ni-63 analyses was generally poor. Not Acceptable performance was demonstrated by 5 of 13 reporting laboratories for Fe-55 with another laboratory receiving a Warning. The bias was typically low. Not Acceptable performance for Ni-63 was shown in 4 of 15 reporting laboratories. There was no trend in the bias.

Stable Inorganic Analytes

Instructions for the MAPEP-99-W7 water sample indicated that some stable inorganic target analytes were present below the stated lower concentration ranges. Laboratories were directed to report results for only those analytes detected above the stated lower concentration. For example, if Chromium was detected below 0.10 mg/L the element should not be reported, or alternatively, reported as a 'less than value'. Reporting data for such an analyte above the stated lower concentration range is interpreted as a false positive result for stable inorganic data. Laboratories reporting zero as a result were given Warnings. Zero is not a scientifically acceptable result for inorganic analyses. False positive tests were performed for Antimony, Chromium, Lead, Nickel, and Copper. No false positive results were reported for these targeted analytes. Silver was not evaluated in this performance evaluation due to variability in the analytical results from the verification analyses and the participating laboratories.

The majority of the data reported for this performance evaluation sample originated from Axial Inductively Coupled Plasma Emission Spectrometry, Radial Inductively Coupled Plasma Emission Spectrometry and Inductively Coupled Plasma Mass Spectrometry methods. The majority of data reported by the international laboratories originated from Flame Atomic Absorption Spectrometry and Furnace Atomic Absorption Spectrometry (Zeeman Background Corrected). Samples were typically analyzed as received without further preparation. A few laboratories utilized acid digestion in accordance with EPA methodology. Generally, changes in analytical methodology, sample preparation techniques or sample size cannot be correlated to any data scatter. Most laboratories demonstrated acceptable performance.

When the determination of uranium-total, uranium-238, and uranium-235 is performed with Mass Spectrometric or related techniques, the results can be reported to MAPEP as inorganic analyses in mg/Liter units. Five laboratories reported Uranium –Total and Uranium isotopes under inorganic analyses. Methodology included Inductively Coupled Plasma – Mass Spectrometry (ICP-MS), Kinetic Phosphorescence Analysis (KPA) and various sample preparation methods. The laboratories utilizing ICP-MS and KPA demonstrated acceptable performance.

Semi-Volatile Organic Analytes

The statistical treatment of the raw data was conducted following statistical protocols developed by the EPA EMSL-CIN for the WP and WS laboratory proficiency testing programs. Reference values were calculated for each analyte by using robust statistical computer algorithms^{1,2} that determined the biweight mean and biweight standard deviation for each analyte. The lower and upper 95% prediction interval (PI) and the lower and upper 95% confidence interval (CI) were also determined.

Each laboratory was evaluated on an analyte by analyte basis using Z-scores as recommended by the International Standards Organization (ISO), "Proficiency testing by interlaboratory comparisons". The Z-Score was calculated as the laboratory result minus the biweight mean divided by the biweight standard deviation. The resulting Z-score may either be positive or negative. A laboratory will be considered to be acceptable, "A", in the analysis of the analyte if the absolute value of the Z-score is less than or equal 2.0.

¹ KAFADAR, K., A Biweight Approach to the One Sample Problem. Amer. Statistical Assoc. 77(378), 1982, pp. 416-424.

² Royal Society of Chemistry, Robust Statistics – How not to Reject Outliers, Part 1, Basic Concepts, and Part 2, Interlaboratory Trials (Analytical Methods Committee, Royal Society of Chemistry). Analyst, 114, 1989, pp. 1693-1702.

If the absolute value of the Z-score is greater than 2.0, but less than or equal 3.0, the result is considered acceptable, but flagged as a Warning; "W". Calculated Z-scores below -3.0 or above +3.0 are considered Not Acceptable; "N".

The majority of the semi-volatile organic data was reported per U.S. EPA SW-846 Method 8270 Semi-volatile Organic Compounds. The extraction of the water sample was mainly by separatory funnel liquid-liquid extraction.

A false negative flag was issued to laboratories that did not report analyte values (or reported as less than values) for organic analytes which by consensus were determined to be present in the sample. MAPEP has determined that some analytical laboratories do not calibrate for all the components present in the target analyte list in U.S. EPA SW-846 Method 8270 Semi-volatile Organic Compounds. For this reason, MAPEP will only flag the analyte as "False Negative" but not assign a performance flag.

A false positive flag was issued to laboratories that reported organic analytes that by consensus were found not to be present in the sample. The value reported by the laboratory was compared to the method specific detection limit. If the reported value was less than or equal to two (2) times this detection limit, the laboratory was given a 'Warning' flag (i.e., proficient). If the reported value was greater than two (2) times the detection limit, the reported data were flagged as a false positive result and the laboratory was given a 'Not Acceptable' performance evaluation.

A false positive flag will be used to indicate laboratories that are clearly reporting incorrect isomers. In this case, a false negative will be given to the isomer that should have been reported and a false positive to the isomer that was reported. In the case of incorrect isomer reporting, the target analyte flagged as a false positive will also be given a "Not Acceptable" performance evaluation.

Consensus in this context means the number of laboratories (n) that define the 95% Prediction Interval (or acceptance limits). The number of laboratories excludes those laboratories reporting data considered as outliers.

The included results do not indicate evaluation for phenol, 2,4-dichlorophenol or 2,6-dichlorophenol. Seventeen (17) of the twenty-eight (28) analytical laboratories reporting semi-volatile organic constituents reported 2,4,6-trichlorophenol. This constituent is a result of the chlorination of the phenol, 2,4-dichlorophenol and 2,6-dichlorophenol. MAPEP can only assume that an insufficient amount of sodium thiosulfate was utilized in the preparation of these standards thus allowing for the chlorination of phenol, 2,6-dichlorophenol and 2,4-dichlorophenol to the 2,4,6-trichlorophenol. Although this water source has not demonstrated this affect in previous MAPEP samples, it has adversely affected this standard and precluded the assignment of performance of these target analytes.

APPENDIX

A

Participating Laboratories and Associated Laboratory Code Index For MAPEP-99-W7

MAPEP-99-W7 Data Reporting Participants

| Lab Code | Laboratory Name |
|-----------------|--|
| ACCU01 | Accu-Labs Research, Inc. |
| ACZL01 | ACZ Laboratories, Inc. |
| AK2501 | Lockheed Martin Energy Systems, K-25 Site, ASO |
| AK2502 | Lockheed Martin Energy Systems, K-25 Site, ASO |
| ANLA01 | Argonne National Laboratory Analytical Chemistry Lab. |
| ANTE01 | Paragon Analytics, Inc. |
| ARGO01 | Argonne National Laboratory West |
| AY1201 | Y-12 Analytical Services Organization |
| BARR01 | Barringer Laboratories, Inc. |
| BIOL99 | Bedford Institute of Oceanography, Dartmouth, Nova Scotia |
| BNAS01 | Bechtel Nevada Analytical Services Laboratory |
| BNEL01 | BINAX / NEL |
| CCEN99 | Comision Chilean de Energia Nuclear, Santiago de Chile |
| CDHS01 | California State Department of Health Services |
| CEEA99 | Comision Ecuatoriana de Energia Atomica, Quito, Ecuador |
| CESL01 | Lawrence Livermore National Laboratory |
| CIRP99 | China Institute for Radiation Protection, Shanxi, China |
| CORE01 | Core Laboratories |
| CORE02 | Core Laboratories |
| CSTL01 | CST-9, Los Alamos National Laboratory |
| DATA01 | DataChem Laboratories, Inc. |
| EMBW01 | B&W Of Ohio, Inc. |
| EPAL01 | Office of Radiation and Indoor Air – Radlab |
| ERCL01 | Environmental & Radiation Chemistry, PHL |
| ERHD99 | Fallout and Reactors Section, Ottawa, Canada |
| ERMI01 | RMI Environmental Services |
| FERM01 | FERMCO |
| GENE01 | General Engineering Laboratories |
| GROW01 | Fruit Growers Laboratory |
| IBTN99 | Instituto Boliviana De Ciencia y Technologia Nuclear , La Paz, Bolivia |
| HISL99 | Hydrometeorological Institute of Slovenia, Ljubljana, Slovenia |
| HWRL01 | Lawrence Livermore National Laboratory |
| IDGR01 | Internal Dosimetry Group-Rad. Lab. |
| IEMA99 | Analytical Ecotoxicology Severtzov Institute of Ecology, Russia |
| IHPH99 | Institute of Hygiene and Public Health, Bucuresti, Romania |
| KSEL01 | Kemron Analytical Services, Inc. |
| LAWR01 | Lawrence Berkeley Laboratory |
| LAWR02 | University of California-LLNL |
| LOCK01 | Lockheed Analytical Chemistry – ICPP |
| LOCK03 | Radiation Measurements Laboratory |
| LPTO99 | SPA Typhoon, Obninsk, Russia |
| MART01 | Lockheed Martin Utility Services |
| MART02 | Lockheed Martin Utility Services Inc. |
| MART03 | Radioactive Materials Analysis Laboratory |

MAPEP-99-W7 Data Reporting Participants (cont.)

| <i>Lab Code</i> | <i>Laboratory Name</i> |
|-----------------|--|
| MDPH01 | MDPH-Radiation Control Program |
| MOUN01 | Mountain States Analytical, Inc. |
| NARL01 | National Air and Radiation Environmental Laboratory |
| NESI01 | B&W NESI - Nuclear Environmental Laboratory |
| NRCQ01 | US Nuclear Regulatory Commission, Region I |
| NRCQ02 | U.S. NRC, Region 3 |
| NRLL99 | National Radiation Laboratory, Christchurch, New Zealand |
| OBGL01 | O'Brien & Gere Laboratories, Inc. |
| ORIS01 | ORISE/ESSAP |
| ORNL03 | Environmental Sciences Division, ORNL |
| OTLI01 | Outreach Technologies Laboratory, Inc. |
| QUAN01 | Quanterra Incorporated |
| QUAN02 | Quanterra Incorporated, Knoxville Laboratory |
| QUAN03 | Quanterra Environmental Services |
| RECC01 | Environmental Chemical Corp. |
| ROCK01 | Kaiser-Hill Co., Inc. |
| RSIR99 | Instituto de Radioprotecao e Dosimetria, Rio de Janeiro |
| SAVA01 | Savannah River Technology Center/ ADS. |
| SCAL01 | Sanford Cohen and Associates |
| SNLP01 | Sandia National Laboratory ER Project |
| SOUT01 | Southwest Research Institute |
| SWOL01 | Southwest Laboratory of Oklahoma |
| TELE01 | Teledyne Brown Engineering – Environmental Services |
| TELE02 | Teledyne Isotopes Midwest Lab |
| TMAE01 | Thermo Nutech |
| TMAO01 | Thermo Nutech |
| TMAR01 | Thermo Nutech |
| TNUT01 | Thermo-Nutech |
| UPVL99 | Universidad Politecnica de Valencia, Valencia, Spain |
| WEST01 | R.F. Weston |
| WEST03 | Waste Sampling and Characterization Facility |
| WRRI99 | Water Resources Research Centre, Budapest, Hungary |
| YAEC01 | Yankee Atomic Electric Company |

MAPEP-99-W7 Non-Reporting Participants

| <i>Lab Code</i> | <i>Laboratory Name</i> |
|-----------------|--|
| BSTL01 | Severn Trent Laboratories |
| CNEA99 | Comision Nacional de Energia Atomica, Asuncion, Paraguay |
| INST99 | Pakistan Institute of Nuclear Science |
| IPEN99 | Instituto Peruano de Energia Nuclear, Lima, Peru |
| NESI02 | NES, Inc. |
| PRAP01 | IT WPRAP Laboratory |
| RSAL01 | RSA Laboratories |
| UINP99 | University of Istanbul/Nuclear Physics, Istanbul, Turkey |
| WEST04 | Westinghouse Electric Corporation |

Changes in Laboratory Status

| | |
|--------|--|
| ORNL02 | The gamma spec lab will be dismantled shortly due to budget loss. |
| ORNL03 | Senior Chemist retiring and Gamma Spec will be shut down. |
| NESI02 | Has not responded to last Four MAPEP Standards - will be removed |
| NMTL01 | Nuclear Materials Technology, Los Alamos National Laboratory - All sample distributions on hold till further notice |
| LFLO01 | Louis Forensics Laboratory - returned sample indicating "Not Involved In this program any longer" |

Other MAPEP Participants

| <i>Lab Code</i> | <i>Laboratory Name</i> |
|-----------------|-------------------------------|
| WELD01 | WSSRAP Radiation Laboratories |

*Not Reporting Results for Three or More Distributions – Not Shipped Samples:**

| | |
|--------|--|
| CNDR99 | Centre Nationa de radioprotection, Sale', Morocco |
| COPS99 | Cepis, Oficina Panamerica Sanitaria |
| CPPS99 | Comision Permanente del Pacifico Sur |
| ICMS99 | Interdisciplinary Center of Marine Sciences |
| MAFF99 | Lowestoft Laboratory, CEFAS, Lowesoft, Suffolk, UK |
| MSUL99 | Lomonosov Moscow State University |
| RCCI99 | Regional Collaborating Centre for India, Mumbai, India |
| UEML01 | Environmental Measurements Laboratory |

*These facilities have not returned data from multiple studies and MAPEP has no way of determining if they have received the samples. For economic reasons, these facilities were put on hold until such time that it can be ascertained that the facilities are receiving the samples and wish to participate in the program.

APPENDIX

B

Analytical Data

Mixed Analyte Performance Evaluation Program

Statistical Summary

Sample ID: MAPEP-99-W7

| Analyte | T(1) | A(2) | Grand Mean | Std. Dev. | Reference Value | Analyte Text | Acceptance Limits | Units |
|------------------------|------|------|------------|-----------|-----------------|---------------------|-------------------|--------|
| Antimony | 4 | | | | | | | (mg/L) |
| Arsenic | 40 | 39 | 0.21 | 0.02 | 0.203 | | 0.14 - 0.26 | (mg/L) |
| Barium | 39 | 38 | 49.82 | 3.20 | 50.8 | | 35.56 - 66.04 | (mg/L) |
| Beryllium | 40 | 38 | 0.50 | 0.03 | 0.508 | | 0.36 - 0.66 | (mg/L) |
| Cadmium | 42 | 40 | 0.30 | 0.02 | 0.305 | | 0.21 - 0.40 | (mg/L) |
| Chromium | 7 | | | | | False Positive Test | | (mg/L) |
| Copper | 9 | | 0.04 | 0.08 | | False Positive Test | | |
| Lead | 4 | | | | | False Positive Test | | (mg/L) |
| Nickel | 8 | | 0.01 | 0.02 | | False Positive Test | | |
| Selenium | 42 | 39 | 0.20 | 0.02 | 0.203 | | 0.14 - 0.26 | (mg/L) |
| Silver | 36 | | 3.42 | 16.28 | | Not Evaluated | | |
| Thallium | 39 | 38 | 0.50 | 0.04 | 0.508 | | 0.36 - 0.66 | (mg/L) |
| Uranium-Total | 3 | 3 | 0.04 | 0.00 | 0.036 | | 0.03 - 0.05 | (mg/L) |
| Uranium-238 | 2 | 1 | 0.04 | 0.00 | 0.036 | | 0.03 - 0.05 | (mg/L) |
| Vanadium | 40 | 39 | 0.71 | 0.05 | 0.711 | | 0.50 - 0.92 | (mg/L) |
| Zinc | 42 | 41 | 5.03 | 0.40 | 5.08 | | 3.56 - 6.60 | (mg/L) |
| Americium-241 | 36 | 33 | 0.65 | 0.06 | 0.635 | | 0.44 - 0.83 | (Bq/L) |
| Cesium-134 | 26 | 26 | 75.59 | 6.15 | 82.9 | | 58.03 - 107.77 | (Bq/L) |
| Cesium-137 | 57 | 54 | 69.62 | 2.88 | 72.7 | | 50.89 - 94.51 | (Bq/L) |
| Cobalt-57 | 56 | 55 | 94.06 | 5.05 | 96.8 | | 67.76 - 125.84 | (Bq/L) |
| Cobalt-60 | 57 | 57 | 271.90 | 9.92 | 270 | | 189.00 - 351.00 | (Bq/L) |
| Iron-55 | 13 | 8 | 87.43 | 11.54 | 97 | | 67.90 - 126.10 | (Bq/L) |
| Manganese-54 | 56 | 55 | 401.25 | 21.04 | 395 | | 276.50 - 513.50 | (Bq/L) |
| Nickel-63 | 15 | 11 | 151.64 | 19.84 | 157 | | 109.90 - 204.10 | (Bq/L) |
| Plutonium-238 | 45 | 34 | 0.33 | 0.04 | 0.32 | | 0.22 - 0.42 | (Bq/L) |
| Plutonium-239/240 | 36 | 23 | 0.05 | 0.16 | | False Positive Test | | |
| Strontium-90 | 33 | 29 | 7.67 | 0.86 | 8.19 | | 5.73 - 10.65 | (Bq/L) |
| Uranium-234/233 | 43 | 35 | 0.46 | 0.03 | 0.428 | | 0.30 - 0.56 | (Bq/L) |
| Uranium-235 | 9 | | 0.03 | 0.04 | | | | |
| Uranium-238 | 44 | 39 | 0.46 | 0.04 | 0.444 | | 0.31 - 0.58 | (Bq/L) |
| Zinc-65 | 55 | 55 | 232.64 | 15.51 | 220 | | 154.00 - 286.00 | (Bq/L) |
| Phenol | 7 | | | | 23.9 | | | (ug/L) |
| 2-Chlorophenol | 10 | 10 | 30.22 | 20.81 | 30.2 | | QL - 92.64 | (ug/L) |
| 1,3-Dichlorobenzene | 25 | 25 | 30.68 | 8.13 | 30.6 | | 6.29 - 55.08 | (ug/L) |
| 2,4-Dimethylphenol | 8 | 8 | 15.94 | 9.20 | 15.9 | | QL - 43.53 | (ug/L) |
| 2,4-Dichlorophenol | 11 | 11 | 27.64 | 17.10 | 27.6 | | QL - 78.93 | (ug/L) |
| 1,2,4-Trichlorobenzene | 26 | 26 | 19.53 | 5.47 | 19.5 | | 3.13 - 35.93 | (ug/L) |

Note:

Outliers are excluded from the statistical summary.
Outliers are defied as laboratory data with a bias greater than 30 percent.

(1) T = Total Number of Laboratories Reporting Analyte.

(2) A = Number of Laboratories with 'Acceptable' Performance.

1. For organic components with absolute value of Z-score < 3

2. Acceptance range minimum labeled as "DL" means from the Detection Limit to the upper range.

Mixed Analyte Performance Evaluation Program

Statistical Summary

Sample ID: MAPEP-99-W7

| Analyte | T(1) | A(2) | Grand Mean | Std. Dev. | Reference Value | Analyte Text | Acceptance Limits | Units |
|-----------------------|------|------|------------|-----------|-----------------|--------------|-------------------|--------|
| Naphthalene | 28 | 28 | 14.98 | 5.16 | 15 | | QL - 30.44 | (ug/L) |
| 2,4,6-Trichlorophenol | 17 | | 45.59 | 18.00 | | | | |
| 2,6-Dichlorophenol | 5 | | | | 39.1 | | | (ug/L) |
| 2,6-Dinitrotoluene | 27 | 27 | 20.53 | 6.52 | 20.6 | | 0.98 - 40.08 | (ug/L) |
| 2,4-Dinitrotoluene | 25 | 25 | 34.72 | 8.43 | 34.7 | | 9.43 - 60.01 | (ug/L) |
| 2,4-Dinitrophenol | 15 | 15 | 9.18 | 5.67 | 9.2 | | QL - 26.18 | (ug/L) |
| Diethylphthalate | 26 | 26 | 20.49 | 7.25 | 20.5 | | QL - 42.24 | (ug/L) |
| Anthracene | 27 | 27 | 23.68 | 8.79 | 23 | | QL - 50.05 | (ug/L) |
| Di-n-butylphthalate | 26 | 26 | 29.43 | 9.63 | 30 | | 0.55 - 58.30 | (ug/L) |
| Fluoranthene | 27 | 27 | 40.06 | 11.25 | 39.5 | | 6.34 - 73.79 | (ug/L) |
| Pyrene | 28 | 28 | 30.32 | 10.22 | 29.9 | | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | 26 | 26 | 25.86 | 8.00 | 25.6 | | 1.89 - 49.84 | (ug/L) |

Note:

Outliers are excluded from the statistical summary.
Outliers are defied as laboratory data with a bias greater than 30 percent.

(1) T = Total Number of Laboratories Reporting Analyte.

(2) A = Number of Laboratories with 'Acceptable' Performance.

1. For organic components with absolute value of Z-score < 3
2. Acceptance range minimum labeled as "DL" means from the Detection Limit to the upper range.

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

ACCU01 ACCULABS INC
 4663 TABLE MOUNTAIN DRIVE
 GOLDEN CO 80403

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|--------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Antimony | <0.05 | | | | | | | | (mg/L) |
| Arsenic | 0.18 | 0.203 | A | | -11.3 | 0.14 - 0.26 | | | (mg/L) |
| Barium | 47 | 50.8 | A | | -7.5 | 35.56 - 66.04 | | | (mg/L) |
| Beryllium | 0.48 | 0.508 | A | | -5.5 | 0.36 - 0.66 | | | (mg/L) |
| Cadmium | 0.27 | 0.305 | A | | -11.5 | 0.21 - 0.40 | | | (mg/L) |
| Chromium | 0.002 | | A | | | | | | (mg/L) |
| Copper | <0.005 | | A | | | | | | (mg/L) |
| Lead | <0.001 | | A | | | | | | (mg/L) |
| Nickel | 0.007 | | A | | | | | | (mg/L) |
| Selenium | 0.15 | 0.203 | W | | -26.1 | 0.14 - 0.26 | | | (mg/L) |
| Silver | 0.067 | | | Not Evaluated | | | | | (mg/L) |
| Thallium | 0.53 | 0.508 | A | | 4.3 | 0.36 - 0.66 | | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.69 | 0.711 | A | | -3.0 | 0.50 - 0.92 | | | (mg/L) |
| Zinc | 4.6 | 5.08 | A | | -9.4 | 3.56 - 6.60 | | | (mg/L) |
| Americium-241 | 0.594 | 0.635 | A | | -6.5 | 0.44 - 0.83 | 0.05 | H | (Bq/L) |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | 25.1 | 72.7 | N | | -65.5 | 50.89 - 94.51 | 1.4 | | (Bq/L) |
| Cobalt-57 | 2.58 | 96.8 | N | | -97.3 | 67.76 - 125.84 | 1.06 | H | (Bq/L) |
| Cobalt-60 | 264 | 270 | A | | -2.2 | 189.00 - 351.00 | 8.1 | | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 84.1 | 395 | N | | -78.7 | 276.50 - 513.50 | 4.5 | | (Bq/L) |
| Nickel-63 | 159 | 157 | A | | 1.3 | 109.90 - 204.10 | 10.6 | | (Bq/L) |
| Plutonium-238 | 0.376 | 0.32 | A | | 17.5 | 0.22 - 0.42 | 0.04 | | (Bq/L) |
| Plutonium-239/240 | 0.013 | | | | | | 0.00 | | (Bq/L) |
| Strontium-90 | 7.83 | 8.19 | A | | -4.4 | 5.73 - 10.65 | 3.96 | H | (Bq/L) |
| Uranium-234/233 | 0.467 | 0.428 | A | | 9.1 | 0.30 - 0.56 | 0.04 | | (Bq/L) |
| Uranium-238 | 0.520 | 0.444 | A | | 17.1 | 0.31 - 0.58 | 0.04 | | (Bq/L) |
| Zinc-65 | 219 | 220 | A | | -0.5 | 154.00 - 286.00 | 7.2 | | (Bq/L) |

- Flags:** A = Result acceptable Bias <= 20%
 W = Result acceptable with warning 20% < Bias <= 30%
 N = Result not acceptable Bias > 30%
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

ACCU01
ACCULABS INC
4663 TABLE MOUNTAIN DRIVE
GOLDEN CO 80403

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|---------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | 20.0 | 23.9 | | | | | (ug/L) |
| 2-Chlorophenol | 35.3 | 30.2 | A | | 0.2 | QL - 92.64 | (ug/L) |
| 1,3-Dichlorobenzene | 32.0 | 30.6 | A | | 0.2 | 6.29 - 55.08 | (ug/L) |
| 2,4-Dimethylphenol | 24.4 | 15.9 | A | | 0.9 | QL - 43.53 | (ug/L) |
| 2,4-Dichlorophenol | 31.4 | 27.6 | A | | 0.2 | QL - 78.93 | (ug/L) |
| 1,2,4-Trichlorobenzene | 21.4 | 19.5 | A | | 0.3 | 3.13 - 35.93 | (ug/L) |
| Naphthalene | 14.7 | 15 | A | | -0.1 | QL - 30.44 | (ug/L) |
| 2,6-Dichlorophenol | 31.0 | 39.1 | | | | | (ug/L) |
| 2,6-Dinitrotoluene | 25.4 | 20.6 | A | | 0.7 | 0.98 - 40.08 | (ug/L) |
| 2,4-Dinitrotoluene | 38.7 | 34.7 | A | | 0.5 | 9.43 - 60.01 | (ug/L) |
| 2,4-Dinitrophenol | 13.1 | 9.2 | A | | 0.7 | QL - 26.18 | (ug/L) |
| 4-Chloroaniline | 0.00 | | N | FP | 0.0 | | (ug/L) |
| Diethylphthalate | 21.2 | 20.5 | A | | 0.1 | QL - 42.24 | (ug/L) |
| Anthracene | 29.9 | 23 | A | | 0.7 | QL - 50.05 | (ug/L) |
| Di-n-butylphthalate | 33.3 | 30 | A | | 0.4 | 0.55 - 58.30 | (ug/L) |
| Fluoranthene | 45.9 | 39.5 | A | | 0.5 | 6.34 - 73.79 | (ug/L) |
| Pyrene | 31.5 | 29.9 | A | | 0.1 | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | 29.2 | 25.6 | A | | 0.4 | 1.89 - 49.84 | (ug/L) |
| Bis(2-ethylhexyl)phthalat | <10 | | | | | | (ug/L) |
| Di-n-octylphthalate | <10 | | | | | | (ug/L) |

Flags: A = Result acceptable Z-score <=2.0)
 W = Result acceptable with warning 2.0 < Z-score <=3.0)
 N = Result not acceptable Z-score > 3.0)
 L = Uncertainty potentially too low (for infomation purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

ACZ Laboratories, Inc
ACZL01 2773 Downhill Drive

Steamboat Springs CO 80487

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|---------------|-----------------|------------------|-----------|-----------|--------|
| Arsenic | 0.2 | 0.203 | A | | -1.5 | 0.14 - 0.26 | 0.01 | | (mg/L) |
| Barium | 49.3 | 50.8 | A | | -3.0 | 35.56 - 66.04 | 0.01 | L | (mg/L) |
| Beryllium | .49 | 0.508 | A | | -3.5 | 0.36 - 0.66 | .05 | | (mg/L) |
| Cadmium | 0.290 | 0.305 | A | | -4.9 | 0.21 - 0.40 | 0.01 | | (mg/L) |
| Selenium | 0.123 | 0.203 | N | | -39.4 | 0.14 - 0.26 | 0.00 | L | (mg/L) |
| Silver | 0.8 | | | Not Evaluated | | | 0.1 | | (mg/L) |
| Thallium | 0.51 | 0.508 | A | | 0.4 | 0.36 - 0.66 | .04 | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.69 | 0.711 | A | | -3.0 | 0.50 - 0.92 | 0.01 | L | (mg/L) |
| Zinc | 5.04 | 5.08 | A | | -0.8 | 3.56 - 6.60 | 0.02 | L | (mg/L) |
| Americium-241 | NR | 0.635 | | | 0.44 - 0.83 | | | | |
| Cesium-134 | 79.2 | 82.9 | A | | -4.5 | 58.03 - 107.77 | 9.8 | | (Bq/L) |
| Cesium-137 | 67.8 | 72.7 | A | | -6.7 | 50.89 - 94.51 | 8.5 | | (Bq/L) |
| Cobalt-57 | 92.9 | 96.8 | A | | -4.0 | 67.76 - 125.84 | 10 | | (Bq/L) |
| Cobalt-60 | 274 | 270 | A | | 1.5 | 189.00 - 351.00 | 30.6 | | (Bq/L) |
| Iron-55 | NR | 97 | | | 67.90 - 126.10 | | | | |
| Manganese-54 | 397 | 395 | A | | 0.5 | 276.50 - 513.50 | 44.6 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | 109.90 - 204.10 | | | | |
| Plutonium-238 | NR | 0.32 | | | 0.22 - 0.42 | | | | |
| Strontium-90 | NR | 8.19 | | | 5.73 - 10.65 | | | | |
| Uranium-234/233 | 0.61 | 0.428 | N | | 42.5 | 0.30 - 0.56 | 0.00 | L | (Bq/L) |
| Uranium-235 | 0.125 | | | | | | .058 | | (Bq/L) |
| Uranium-238 | 0.64 | 0.444 | N | | 44.1 | 0.31 - 0.58 | 0.12 | H | (Bq/L) |
| Zinc-65 | 238 | 220 | A | | 8.2 | 154.00 - 286.00 | 30.0 | | (Bq/L) |

Flags:

A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

ACZL01
ACZ Laboratories, Inc
2773 Downhill Drive
Steamboat Springs CO 80487

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

AK2501 LMES ACUnion Valley Laboratory
P. O. Box 2009

Oak Ridge TN 37831

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | 0.62 | 0.635 | A | | -2.4 | 0.44 - 0.83 | 0.08 | | (Bq/L) |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | 68 | 72.7 | A | | -6.5 | 50.89 - 94.51 | 8.8 | | (Bq/L) |
| Cobalt-57 | 91 | 96.8 | A | | -6.0 | 67.76 - 125.84 | 8.5 | | (Bq/L) |
| Cobalt-60 | 260 | 270 | A | | -3.7 | 189.00 - 351.00 | 20 | | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 390 | 395 | A | | -1.3 | 276.50 - 513.50 | 47 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | 0.304 | 0.32 | A | | -5.0 | 0.22 - 0.42 | 0.03 | | (Bq/L) |
| Plutonium-239/240 | 0.0051 | | | | | | 0.00 | | (Bq/L) |
| Strontium-90 | 6.9 | 8.19 | A | | -15.8 | 5.73 - 10.65 | 0.20 | L | (Bq/L) |
| Uranium-234/233 | 0.42 | 0.428 | A | | -1.9 | 0.30 - 0.56 | 0.05 | | (Bq/L) |
| Uranium-238 | 0.42 | 0.444 | A | | -5.4 | 0.31 - 0.58 | 0.05 | | (Bq/L) |
| Zinc-65 | 230 | 220 | A | | 4.5 | 154.00 - 286.00 | 26 | | (Bq/L) |

- Flags:** A = Result acceptable Bias <= 20%
W = Result acceptable with warning 20% < Bias <= 30%
N = Result not acceptable Bias > 30%
L = Uncertainty potentially too low (for infomation purposes only)
H = Uncertainty potentially too high (for information purposes only)
QL = Detection Limit
RW = Report Warning
NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

LMES ACUnion Valley Laboratory
AK2501 P. O. Box 2009

Oak Ridge TN 37831

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | 23 | 23.9 | | | | | (ug/L) |
| 2-Chlorophenol | 39 | 30.2 | A | | 0.4 | QL - 92.64 | (ug/L) |
| 1,3-Dichlorobenzene | 40 | 30.6 | A | | 1.1 | 6.29 - 55.08 | (ug/L) |
| 2,4-Dimethylphenol | 21 | 15.9 | A | | 0.6 | QL - 43.53 | (ug/L) |
| 2,4-Dichlorophenol | 35 | 27.6 | A | | 0.4 | QL - 78.93 | (ug/L) |
| 1,2,4-Trichlorobenzene | 24 | 19.5 | A | | 0.8 | 3.13 - 35.93 | (ug/L) |
| Naphthalene | 21 | 15 | A | | 1.2 | QL - 30.44 | (ug/L) |
| 2,6-Dichlorophenol | 40 | 39.1 | | | | | (ug/L) |
| 2,6-Dinitrotoluene | 24 | 20.6 | A | | 0.5 | 0.98 - 40.08 | (ug/L) |
| 2,4-Dinitrotoluene | 40 | 34.7 | A | | 0.6 | 9.43 - 60.01 | (ug/L) |
| 2,4-Dinitrophenol | NR | 9.2 | | FN | | QL - 26.18 | |
| Diethylphthalate | 16 | 20.5 | A | | -0.6 | QL - 42.24 | (ug/L) |
| Anthracene | 27 | 23 | A | | 0.4 | QL - 50.05 | (ug/L) |
| Di-n-butylphthalate | 25 | 30 | A | | -0.5 | 0.55 - 58.30 | (ug/L) |
| Fluoranthene | 42 | 39.5 | A | | 0.2 | 6.34 - 73.79 | (ug/L) |
| Pyrene | 37 | 29.9 | A | | 0.7 | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | 31 | 25.6 | A | | 0.6 | 1.89 - 49.84 | (ug/L) |

- Flags:** A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

ANLA01 Argonne National Laboratory/Analytical Chemistry Lab.
9700 S. Cass Avenue

Argonne IL 60439

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | 0.204 | 0.203 | A | | 0.5 | 0.14 - 0.26 | 0.02 | | (mg/L) |
| Barium | 50.0 | 50.8 | A | | -1.6 | 35.56 - 66.04 | 5.0 | | (mg/L) |
| Beryllium | 0.49 | 0.508 | A | | -3.5 | 0.36 - 0.66 | 0.05 | | (mg/L) |
| Cadmium | 0.31 | 0.305 | A | | 1.6 | 0.21 - 0.40 | 0.03 | | (mg/L) |
| Selenium | 0.19 | 0.203 | A | | -6.4 | 0.14 - 0.26 | 0.02 | | (mg/L) |
| Thallium | 0.476 | 0.508 | A | | -6.3 | 0.36 - 0.66 | 0.05 | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.74 | 0.711 | A | | 4.1 | 0.50 - 0.92 | 0.07 | | (mg/L) |
| Zinc | 5.22 | 5.08 | A | | 2.8 | 3.56 - 6.60 | 0.50 | | (mg/L) |
| Americium-241 | 0.677 | 0.635 | A | | 6.6 | 0.44 - 0.83 | 0.02 | | (Bq/L) |
| Cesium-134 | 85.3 | 82.9 | A | | 2.9 | 58.03 - 107.77 | 2.0 | L | (Bq/L) |
| Cesium-137 | 6.71 | 72.7 | N | | -90.8 | 50.89 - 94.51 | 0.89 | | (Bq/L) |
| Cobalt-57 | 90.8 | 96.8 | A | | -6.2 | 67.76 - 125.84 | 1.6 | L | (Bq/L) |
| Cobalt-60 | 283.9 | 270 | A | | 5.1 | 189.00 - 351.00 | 1.8 | L | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 461.1 | 395 | A | | 16.7 | 276.50 - 513.50 | 2.8 | L | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | 0.350 | 0.32 | A | | 9.4 | 0.22 - 0.42 | 0.02 | | (Bq/L) |
| Plutonium-239/240 | 0.0072 | | | | | | 0.00 | | (Bq/L) |
| Strontium-90 | 7.05 | 8.19 | A | | -13.9 | 5.73 - 10.65 | 0.46 | | (Bq/L) |
| Uranium-234/233 | 0.442 | 0.428 | A | | 3.3 | 0.30 - 0.56 | 0.02 | | (Bq/L) |
| Uranium-235 | 0.015 | | | | | | 0.00 | | (Bq/L) |
| Uranium-238 | 0.441 | 0.444 | A | | -0.7 | 0.31 - 0.58 | 0.01 | | (Bq/L) |
| Zinc-65 | 186.6 | 220 | A | | -15.2 | 154.00 - 286.00 | 2.4 | L | (Bq/L) |

Flags: A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

ANLA01 Argonne National Laboratory/Analytical Chemistry Lab.
9700 S. Cass Avenue

Argonne IL 60439

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | 43.2 | 30.2 | A | | 0.6 | QL - 92.64 | (ug/L) |
| 1,3-Dichlorobenzene | 36.5 | 30.6 | A | | 0.7 | 6.29 - 55.08 | (ug/L) |
| 2,4-Dimethylphenol | 23.6 | 15.9 | A | | 0.8 | QL - 43.53 | (ug/L) |
| 2,4-Dichlorophenol | 39.7 | 27.6 | A | | 0.7 | QL - 78.93 | (ug/L) |
| 1,2,4-Trichlorobenzene | 23.9 | 19.5 | A | | 0.8 | 3.13 - 35.93 | (ug/L) |
| Naphthalene | 2.2 | 15 | W | | -2.5 | QL - 30.44 | (ug/L) |
| 2,6-Dichlorophenol | 38.8 | 39.1 | | | | | (ug/L) |
| 2,6-Dinitrotoluene | 26.3 | 20.6 | A | | 0.9 | 0.98 - 40.08 | (ug/L) |
| 2,4-Dinitrotoluene | NR | 34.7 | | FN | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | FN | | QL - 26.18 | |
| Diethylphthalate | 27.2 | 20.5 | A | | 0.9 | QL - 42.24 | (ug/L) |
| Anthracene | 22.3 | 23 | A | | -0.2 | QL - 50.05 | (ug/L) |
| Di-n-butylphthalate | 35.4 | 30 | A | | 0.6 | 0.55 - 58.30 | (ug/L) |
| Fluoranthene | 46 | 39.5 | A | | 0.5 | 6.34 - 73.79 | (ug/L) |
| Pyrene | 34.9 | 29.9 | A | | 0.4 | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | 29.7 | 25.6 | A | | 0.5 | 1.89 - 49.84 | (ug/L) |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

Paragon Analytics, Inc.
ANTE01
225 Commerce Drive

Fort Collins CO 80524

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|--------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Arsenic | 0.210 | 0.203 | A | | 3.4 | 0.14 - 0.26 | | | (mg/L) |
| Barium | 51.1 | 50.8 | A | | 0.6 | 35.56 - 66.04 | | | (mg/L) |
| Beryllium | 0.507 | 0.508 | A | | -0.2 | 0.36 - 0.66 | | | (mg/L) |
| Cadmium | 0.300 | 0.305 | A | | -1.6 | 0.21 - 0.40 | | | (mg/L) |
| Selenium | 0.194 | 0.203 | A | | -4.4 | 0.14 - 0.26 | | | (mg/L) |
| Silver | 1.22 | | | Not Evaluated | | | | | (mg/L) |
| Thallium | 0.511 | 0.508 | A | | 0.6 | 0.36 - 0.66 | | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.720 | 0.711 | A | | 1.3 | 0.50 - 0.92 | | | (mg/L) |
| Zinc | 4.92 | 5.08 | A | | -3.2 | 3.56 - 6.60 | | | (mg/L) |
| Americium-241 | 0.655 | 0.635 | A | | 3.2 | 0.44 - 0.83 | 0.04 | | (Bq/L) |
| Cesium-134 | 72.8 | 82.9 | A | | -12.2 | 58.03 - 107.77 | 6.65 | | (Bq/L) |
| Cesium-137 | 68.6 | 72.7 | A | | -5.6 | 50.89 - 94.51 | 5.72 | | (Bq/L) |
| Cobalt-57 | 93.2 | 96.8 | A | | -3.7 | 67.76 - 125.84 | 7.71 | | (Bq/L) |
| Cobalt-60 | 267 | 270 | A | | -1.1 | 189.00 - 351.00 | 22.0 | | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 392 | 395 | A | | -0.8 | 276.50 - 513.50 | 32.4 | | (Bq/L) |
| Nickel-63 | 174 | 157 | A | | 10.8 | 109.90 - 204.10 | 21.8 | | (Bq/L) |
| Plutonium-238 | 0.330 | 0.32 | A | | 3.1 | 0.22 - 0.42 | 0.02 | | (Bq/L) |
| Plutonium-239/240 | 0.0100 | | | | | | 0.00 | | (Bq/L) |
| Strontium-90 | 7.23 | 8.19 | A | | -11.7 | 5.73 - 10.65 | 0.65 | | (Bq/L) |
| Uranium-234/233 | 0.449 | 0.428 | A | | 4.9 | 0.30 - 0.56 | 0.03 | | (Bq/L) |
| Uranium-235 | 0.0304 | | | | | | 0.00 | | (Bq/L) |
| Uranium-238 | 0.449 | 0.444 | A | | 1.1 | 0.31 - 0.58 | 0.03 | | (Bq/L) |
| Zinc-65 | 231 | 220 | A | | 5.0 | 154.00 - 286.00 | 19.4 | | (Bq/L) |

- Flags:** A = Result acceptable Bias <= 20%
W = Result acceptable with warning 20% < Bias <= 30%
N = Result not acceptable Bias > 30%
L = Uncertainty potentially too low (for information purposes only)
H = Uncertainty potentially too high (for information purposes only)
QL = Detection Limit
RW = Report Warning
NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

Paragon Analytics, Inc.
ANTE01 225 Commerce Drive
 Fort Collins CO 80524

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | 23.0 | 23.9 | | | | | (ug/L) |
| 2-Chlorophenol | 41.5 | 30.2 | A | | 0.5 | QL - 92.64 | (ug/L) |
| 1,3-Dichlorobenzene | 33.1 | 30.6 | A | | 0.3 | 6.29 - 55.08 | (ug/L) |
| 2,4-Dimethylphenol | 19.1 | 15.9 | A | | 0.3 | QL - 43.53 | (ug/L) |
| 2,4-Dichlorophenol | 35.7 | 27.6 | A | | 0.5 | QL - 78.93 | (ug/L) |
| 1,2,4-Trichlorobenzene | 20.7 | 19.5 | A | | 0.2 | 3.13 - 35.93 | (ug/L) |
| Naphthalene | 15.1 | 15 | A | | 0.0 | QL - 30.44 | (ug/L) |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | 20.0 | 20.6 | A | | -0.1 | 0.98 - 40.08 | (ug/L) |
| 2,4-Dinitrotoluene | 37.4 | 34.7 | A | | 0.3 | 9.43 - 60.01 | (ug/L) |
| 2,4-Dinitrophenol | 5.46 | 9.2 | A | | -0.7 | QL - 26.18 | (ug/L) |
| Diethylphthalate | 21.1 | 20.5 | A | | 0.1 | QL - 42.24 | (ug/L) |
| Anthracene | 24.8 | 23 | A | | 0.1 | QL - 50.05 | (ug/L) |
| Di-n-butylphthalate | 29.3 | 30 | A | | 0.0 | 0.55 - 58.30 | (ug/L) |
| Fluoranthene | 38.3 | 39.5 | A | | -0.2 | 6.34 - 73.79 | (ug/L) |
| Pyrene | 28.0 | 29.9 | A | | -0.2 | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | 26.4 | 25.6 | A | | 0.1 | 1.89 - 49.84 | (ug/L) |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

ARGO01 Argonne National Laboratory West
EBRII-Site

Idaho Falls ID 83403

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Arsenic | 0.22 | 0.203 | A | | 8.4 | 0.14 - 0.26 | 0.02 | | (mg/L) |
| Barium | 49.6 | 50.8 | A | | -2.4 | 35.56 - 66.04 | 5 | | (mg/L) |
| Beryllium | 0.52 | 0.508 | A | | 2.4 | 0.36 - 0.66 | 0.05 | | (mg/L) |
| Cadmium | 0.31 | 0.305 | A | | 1.6 | 0.21 - 0.40 | 0.03 | | (mg/L) |
| Selenium | 0.20 | 0.203 | A | | -1.5 | 0.14 - 0.26 | 0.02 | | (mg/L) |
| Silver | 0.12 | | | Not Evaluated | | | 0.01 | | (mg/L) |
| Thallium | 0.54 | 0.508 | A | | 6.3 | 0.36 - 0.66 | 0.05 | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | 81 | 82.9 | A | | -2.3 | 58.03 - 107.77 | 6.5 | | (Bq/L) |
| Cesium-137 | 148 | 72.7 | N | | 103.6 | 50.89 - 94.51 | 11.8 | | (Bq/L) |
| Cobalt-57 | 95 | 96.8 | A | | -1.9 | 67.76 - 125.84 | 9.5 | | (Bq/L) |
| Cobalt-60 | 257 | 270 | A | | -4.8 | 189.00 - 351.00 | 21 | | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 370 | 395 | A | | -6.3 | 276.50 - 513.50 | 30 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | NR | 0.32 | | | | 0.22 - 0.42 | | | |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | NR | 0.428 | | | | 0.30 - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | | 0.31 - 0.58 | | | |
| Zinc-65 | 203 | 220 | A | | -7.7 | 154.00 - 286.00 | 24 | | (Bq/L) |

Flags: A = Result acceptable Bias <= 20%
W = Result acceptable with warning 20% < Bias <= 30%
N = Result not acceptable Bias > 30%
L = Uncertainty potentially too low (for information purposes only)
H = Uncertainty potentially too high (for information purposes only)
QL = Detection Limit
RW = Report Warning
NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

ARGO01 Argonne National Laboratory West
EBRII-Site

Idaho Falls ID 83403

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

LMES ACO Y-12 Building 9995 Laboratory
AY1201 Y12, Building 9995, Rm 142

Oak Ridge TN 37831

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|--------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Arsenic | 0.197 | 0.203 | A | | -3.0 | 0.14 - 0.26 | | | (mg/L) |
| Barium | 52.9 | 50.8 | A | | 4.1 | 35.56 - 66.04 | | | (mg/L) |
| Beryllium | 0.506 | 0.508 | A | | -0.4 | 0.36 - 0.66 | | | (mg/L) |
| Cadmium | 0.293 | 0.305 | A | | -3.9 | 0.21 - 0.40 | | | (mg/L) |
| Selenium | 0.181 | 0.203 | A | | -10.8 | 0.14 - 0.26 | | | (mg/L) |
| Silver | 1.12 | | | Not Evaluated | | | | | (mg/L) |
| Thallium | 0.493 | 0.508 | A | | -3.0 | 0.36 - 0.66 | | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.699 | 0.711 | A | | -1.7 | 0.50 - 0.92 | | | (mg/L) |
| Zinc | 4.95 | 5.08 | A | | -2.6 | 3.56 - 6.60 | | | (mg/L) |
| Americium-241 | 0.720 | 0.635 | A | | 13.4 | 0.44 - 0.83 | 0.08 | | (Bq/L) |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | 71.8 | 72.7 | A | | -1.2 | 50.89 - 94.51 | 8.01 | | (Bq/L) |
| Cobalt-57 | 96.8 | 96.8 | A | | 0.0 | 67.76 - 125.84 | 11.5 | | (Bq/L) |
| Cobalt-60 | 282 | 270 | A | | 4.4 | 189.00 - 351.00 | 28.7 | | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 414 | 395 | A | | 4.8 | 276.50 - 513.50 | 53.3 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | 0.420 | 0.32 | N | | 31.3 | 0.22 - 0.42 | 0.06 | | (Bq/L) |
| Plutonium-239/240 | 0.0089 | | | | | | 0.00 | | (Bq/L) |
| Strontium-90 | 6.9 | 8.19 | A | | -15.8 | 5.73 - 10.65 | 0.47 | | (Bq/L) |
| Uranium-234/233 | 0.605 | 0.428 | N | | 41.4 | 0.30 - 0.56 | 0.07 | | (Bq/L) |
| Uranium-238 | 0.435 | 0.444 | A | | -2.0 | 0.31 - 0.58 | 0.06 | | (Bq/L) |
| Zinc-65 | 242 | 220 | A | | 10.0 | 154.00 - 286.00 | 26.3 | | (Bq/L) |

Flags:

A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

LMES ACO Y-12 Building 9995 Laboratory
AY1201 Y12, Building 9995, Rm 142

Oak Ridge TN 37831

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

Barringer Laboratories, Inc.
BARR01 15000 W 6th Ave

Golden CO 80401

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|--------|-----------|------|---------------|----------------|------------------|-----------|-----------|--------|
| Arsenic | 0.236 | 0.203 | A | | 16.3 | 0.14 - 0.26 | | | (mg/L) |
| Barium | 49.5 | 50.8 | A | | -2.6 | 35.56 - 66.04 | | | (mg/L) |
| Beryllium | 0.496 | 0.508 | A | | -2.4 | 0.36 - 0.66 | | | (mg/L) |
| Cadmium | 0.29 | 0.305 | A | | -4.9 | 0.21 - 0.40 | | | (mg/L) |
| Calcium | 153 | | | | | | | | (mg/L) |
| Magnesium | 19.2 | | | | | | | | (mg/L) |
| Selenium | 0.170 | 0.203 | A | | -16.3 | 0.14 - 0.26 | | | (mg/L) |
| Silver | 0.267 | | | Not Evaluated | | | | | (mg/L) |
| Sodium | 22.9 | | | | | | | | (mg/L) |
| Thallium | 0.586 | 0.508 | A | | 15.4 | 0.36 - 0.66 | | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.671 | 0.711 | A | | -5.6 | 0.50 - 0.92 | | | (mg/L) |
| Zinc | 4.90 | 5.08 | A | | -3.5 | 3.56 - 6.60 | | | (mg/L) |
| Americium-241 | 0.673 | 0.635 | A | | 6.0 | 0.44 - 0.83 | 0.01 | L | (Bq/L) |
| Cesium-134 | NR | 82.9 | | | 58.03 - 107.77 | | | | |
| Cesium-137 | 67.2 | 72.7 | A | | -7.6 | 50.89 - 94.51 | 1.9 | L | (Bq/L) |
| Cobalt-57 | 93.5 | 96.8 | A | | -3.4 | 67.76 - 125.84 | 2.8 | L | (Bq/L) |
| Cobalt-60 | 271 | 270 | A | | 0.4 | 189.00 - 351.00 | 5 | L | (Bq/L) |
| Iron-55 | 79.3 | 97 | A | | -18.2 | 67.90 - 126.10 | 2.3 | L | (Bq/L) |
| Manganese-54 | 389 | 395 | A | | -1.5 | 276.50 - 513.50 | 9 | L | (Bq/L) |
| Nickel-63 | 141 | 157 | A | | -10.2 | 109.90 - 204.10 | 1 | L | (Bq/L) |
| Plutonium-238 | 0.414 | 0.32 | W | | 29.4 | 0.22 - 0.42 | 0.01 | | (Bq/L) |
| Plutonium-239/240 | 0.003 | | | | | | 0.00 | | (Bq/L) |
| Strontium-90 | 7.43 | 8.19 | A | | -9.3 | 5.73 - 10.65 | 0.24 | | (Bq/L) |
| Uranium-234/233 | 0.696 | 0.428 | N | | 62.6 | 0.30 - 0.56 | 0.16 | H | (Bq/L) |
| Uranium-238 | 0.537 | 0.444 | W | | 20.9 | 0.31 - 0.58 | 0.17 | H | (Bq/L) |
| Zinc-65 | 228 | 220 | A | | 3.6 | 154.00 - 286.00 | 5 | L | (Bq/L) |

- Flags:** A = Result acceptable Bias <= 20%
 W = Result acceptable with warning 20% < Bias <= 30%
 N = Result not acceptable Bias > 30%
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

Barringer Laboratories, Inc.
BARR01 15000 W 6th Ave

Golden CO 80401

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | 4.84 | 23.9 | | | | | (ug/L) |
| 2-Chlorophenol | 24 | 30.2 | A | | -0.3 | QL - 92.64 | (ug/L) |
| 1,3-Dichlorobenzene | 25 | 30.6 | A | | -0.7 | 6.29 - 55.08 | (ug/L) |
| 2,4-Dimethylphenol | 12 | 15.9 | A | | -0.4 | QL - 43.53 | (ug/L) |
| 2,4-Dichlorophenol | 25 | 27.6 | A | | -0.2 | QL - 78.93 | (ug/L) |
| 1,2,4-Trichlorobenzene | 17 | 19.5 | A | | -0.5 | 3.13 - 35.93 | (ug/L) |
| Naphthalene | 14 | 15 | A | | -0.2 | QL - 30.44 | (ug/L) |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | 20 | 20.6 | A | | -0.1 | 0.98 - 40.08 | (ug/L) |
| 2,4-Dinitrotoluene | 35 | 34.7 | A | | 0.0 | 9.43 - 60.01 | (ug/L) |
| 2,4-Dinitrophenol | 20 | 9.2 | A | | 1.9 | QL - 26.18 | (ug/L) |
| Diethylphthalate | 23 | 20.5 | A | | 0.3 | QL - 42.24 | (ug/L) |
| Anthracene | 26 | 23 | A | | 0.3 | QL - 50.05 | (ug/L) |
| Di-n-butylphthalate | 33 | 30 | A | | 0.4 | 0.55 - 58.30 | (ug/L) |
| Fluoranthene | 38 | 39.5 | A | | -0.2 | 6.34 - 73.79 | (ug/L) |
| Pyrene | 43 | 29.9 | A | | 1.2 | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | 28 | 25.6 | A | | 0.3 | 1.89 - 49.84 | (ug/L) |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

BIOL99 Atlantic Environmental Radiation Unit
 PO Box 1006

Dartmouth Nova Sc -

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | 68 | 72.7 | A | | -6.5 | 50.89 - 94.51 | 4 | | (Bq/L) |
| Cobalt-57 | 90 | 96.8 | A | | -7.0 | 67.76 - 125.84 | 3 | | (Bq/L) |
| Cobalt-60 | 265 | 270 | A | | -1.9 | 189.00 - 351.00 | 13 | | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 414 | 395 | A | | 4.8 | 276.50 - 513.50 | 17 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | 3.0 | 0.32 | N | | 837.5 | 0.22 - 0.42 | 0.3 | | (Bq/L) |
| Plutonium-239/240 | 0.07 | | | | | | 0.02 | | (Bq/L) |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | NR | 0.428 | | | | 0.30 - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | | 0.31 - 0.58 | | | |
| Zinc-65 | 251 | 220 | A | | 14.1 | 154.00 - 286.00 | 15 | | (Bq/L) |

Flags: A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

 L = Uncertainty potentially too low (for infomation purposes only)

 H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

BIOL99 Atlantic Environmental Radiation Unit
 PO Box 1006

Dartmouth Nova Sc -

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0)
W = Result acceptable with warning 2.0 < Z-score <=3.0)
N = Result not acceptable Z-score > 3.0)
L = Uncertainty potentially too low (for infomation purposes only)
H = Uncertainty potentially too high (for information purposes only)
QL = Detection Limit
RW = Report Warning
NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

BNAS01 Bechtel Nevada Analytical Services Laboratory
PO Box 98521

Las Vegas NV 89193

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | 0.791 | 0.635 | W | | 24.6 | 0.44 - 0.83 | 0.08 | | (Bq/L) |
| Cesium-134 | 76.6 | 82.9 | A | | -7.6 | 58.03 - 107.77 | 3.8 | | (Bq/L) |
| Cesium-137 | 71.9 | 72.7 | A | | -1.1 | 50.89 - 94.51 | 3.6 | | (Bq/L) |
| Cobalt-57 | 104 | 96.8 | A | | 7.4 | 67.76 - 125.84 | 5 | | (Bq/L) |
| Cobalt-60 | 284 | 270 | A | | 5.2 | 189.00 - 351.00 | 14 | | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 438 | 395 | A | | 10.9 | 276.50 - 513.50 | 22 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | 0.324 | 0.32 | A | | 1.3 | 0.22 - 0.42 | 0.02 | | (Bq/L) |
| Plutonium-239/240 | 0.012 | | | | | | 0.00 | | (Bq/L) |
| Strontium-90 | 7.65 | 8.19 | A | | -6.6 | 5.73 - 10.65 | 0.38 | | (Bq/L) |
| Uranium-234/233 | 0.479 | 0.428 | A | | 11.9 | 0.30 - 0.56 | 0.06 | | (Bq/L) |
| Uranium-238 | 0.522 | 0.444 | A | | 17.6 | 0.31 - 0.58 | 0.06 | | (Bq/L) |
| Zinc-65 | 258 | 220 | A | | 17.3 | 154.00 - 286.00 | 13 | | (Bq/L) |

Flags: A = Result acceptable Bias <= 20%
 W = Result acceptable with warning 20% < Bias <= 30%
 N = Result not acceptable Bias > 30%
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

BNAS01 Bechtel Nevada Analytical Services Laboratory
PO Box 98521

Las Vegas NV 89193

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

Binax / NEL
BNEL01 PO Box 788

Winslow ME 04903

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Arsenic | 0.213 | 0.203 | A | | 4.9 | 0.14 - 0.26 | | | (mg/L) |
| Barium | 53.9 | 50.8 | A | | 6.1 | 35.56 - 66.04 | | | (mg/L) |
| Beryllium | 0.550 | 0.508 | A | | 8.3 | 0.36 - 0.66 | | | (mg/L) |
| Cadmium | 0.310 | 0.305 | A | | 1.6 | 0.21 - 0.40 | | | (mg/L) |
| Selenium | 0.196 | 0.203 | A | | -3.4 | 0.14 - 0.26 | | | (mg/L) |
| Silver | 0.350 | | | Not Evaluated | | | | | (mg/L) |
| Thallium | 0.464 | 0.508 | A | | -8.7 | 0.36 - 0.66 | | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.738 | 0.711 | A | | 3.8 | 0.50 - 0.92 | | | (mg/L) |
| Zinc | 4.98 | 5.08 | A | | -2.0 | 3.56 - 6.60 | | | (mg/L) |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | NR | 72.7 | | | | 50.89 - 94.51 | | | |
| Cobalt-57 | NR | 96.8 | | | | 67.76 - 125.84 | | | |
| Cobalt-60 | NR | 270 | | | | 189.00 - 351.00 | | | |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | NR | 395 | | | | 276.50 - 513.50 | | | |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | NR | 0.32 | | | | 0.22 - 0.42 | | | |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | NR | 0.428 | | | | 0.30 - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | | 0.31 - 0.58 | | | |
| Zinc-65 | NR | 220 | | | | 154.00 - 286.00 | | | |

Flags: A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

Binax / NEL
BNEL01
 PO Box 788

Winslow ME 04903

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | 19.1 | 30.2 | A | | -0.5 | QL - 92.64 | (ug/L) |
| 1,3-Dichlorobenzene | 19.3 | 30.6 | A | | -1.4 | 6.29 - 55.08 | (ug/L) |
| 2,4-Dimethylphenol | 12.3 | 15.9 | A | | -0.4 | QL - 43.53 | (ug/L) |
| 2,4-Dichlorophenol | 32.9 | 27.6 | A | | 0.3 | QL - 78.93 | (ug/L) |
| 1,2,4-Trichlorobenzene | 11.4 | 19.5 | A | | -1.5 | 3.13 - 35.93 | (ug/L) |
| Naphthalene | 9.26 | | 15 | A | -1.1 | QL - 30.44 | (ug/L) |
| 2,4,6-Trichlorophenol | 7.19 | | | | | | (ug/L) |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | 8.85 | 20.6 | A | | -1.8 | 0.98 - 40.08 | (ug/L) |
| 2,4-Dinitrotoluene | 15.5 | 34.7 | W | | -2.3 | 9.43 - 60.01 | (ug/L) |
| 2,4-Dinitrophenol | NR | 9.2 | | FN | | QL - 26.18 | |
| Diethylphthalate | 10.5 | 20.5 | A | | -1.4 | QL - 42.24 | (ug/L) |
| Anthracene | 14.2 | 23 | A | | -1.1 | QL - 50.05 | (ug/L) |
| Di-n-butylphthalate | 19.5 | 30 | A | | -1.0 | 0.55 - 58.30 | (ug/L) |
| Fluoranthene | 20.4 | 39.5 | A | | -1.7 | 6.34 - 73.79 | (ug/L) |
| Pyrene | 15.9 | 29.9 | A | | -1.4 | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | NR | 25.6 | | FN | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

ANALISIS POR ACTIVACION
CCEN99 AMUNATEGUI 95

SANTIAGO SANTIA 65006

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Arsenic | 0.205 | 0.203 | A | | 1.0 | 0.14 - 0.26 | 0.00 | L | (mg/L) |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | 0.195 | 0.203 | A | | -3.9 | 0.14 - 0.26 | 0.00 | | (mg/L) |
| Silver | 0.70 | | | Not Evaluated | | | 0.01 | | (mg/L) |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.694 | 0.711 | A | | -2.4 | 0.50 - 0.92 | 0.02 | | (mg/L) |
| Zinc | 4.74 | 5.08 | A | | -6.7 | 3.56 - 6.60 | 0.16 | | (mg/L) |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | NR | 72.7 | | | | 50.89 - 94.51 | | | |
| Cobalt-57 | NR | 96.8 | | | | 67.76 - 125.84 | | | |
| Cobalt-60 | NR | 270 | | | | 189.00 - 351.00 | | | |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | NR | 395 | | | | 276.50 - 513.50 | | | |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | NR | 0.32 | | | | 0.22 - 0.42 | | | |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | NR | 0.428 | | | | 0.30 - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | | 0.31 - 0.58 | | | |
| Zinc-65 | NR | 220 | | | | 154.00 - 286.00 | | | |

Flags: A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

ANALISIS POR ACTIVACION
CCEN99 AMUNATEGUI 95
 SANTIAGO SANTIA 65006

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

CDHS01 California State Department of Health Services
Sanitation & Radiation Lab.

Berkeley CA 94704

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|--------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Antimony | 0.0003 | | | | | | | | (mg/L) |
| Arsenic | 0.198 | 0.203 | A | | -2.5 | 0.14 - 0.26 | | | (mg/L) |
| Barium | 50.0 | 50.8 | A | | -1.6 | 35.56 - 66.04 | | | (mg/L) |
| Beryllium | 0.473 | 0.508 | A | | -6.9 | 0.36 - 0.66 | | | (mg/L) |
| Cadmium | 0.296 | 0.305 | A | | -3.0 | 0.21 - 0.40 | | | (mg/L) |
| Chromium | 0.0007 | | A | | | | | | (mg/L) |
| Copper | 0.002 | | A | | | | | | (mg/L) |
| Lead | 0.0009 | | A | | | | | | (mg/L) |
| Nickel | 0.005 | | A | | | | | | (mg/L) |
| Selenium | 0.193 | 0.203 | A | | -4.9 | 0.14 - 0.26 | | | (mg/L) |
| Silver | 0 | | W | Not Evaluated | | | | | (mg/L) |
| Thallium | 0.492 | 0.508 | A | | -3.2 | 0.36 - 0.66 | | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.679 | 0.711 | A | | -4.5 | 0.50 - 0.92 | | | (mg/L) |
| Zinc | 5.27 | 5.08 | A | | 3.7 | 3.56 - 6.60 | | | (mg/L) |
| Americium-241 | 0.642 | 0.635 | A | | 1.1 | 0.44 - 0.83 | 0.02 | | (Bq/L) |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | 70.7 | 72.7 | A | | -2.8 | 50.89 - 94.51 | 1.4 | L | (Bq/L) |
| Cobalt-57 | 94.5 | 96.8 | A | | -2.4 | 67.76 - 125.84 | 0.46 | L | (Bq/L) |
| Cobalt-60 | 278 | 270 | A | | 3.0 | 189.00 - 351.00 | 1.1 | L | (Bq/L) |
| Iron-55 | 133 | 97 | N | | 37.1 | 67.90 - 126.10 | 1.3 | L | (Bq/L) |
| Manganese-54 | 409 | 395 | A | | 3.5 | 276.50 - 513.50 | 1.3 | L | (Bq/L) |
| Nickel-63 | 164 | 157 | A | | 4.5 | 109.90 - 204.10 | 1.2 | L | (Bq/L) |
| Plutonium-238 | 0.316 | 0.32 | A | | -1.3 | 0.22 - 0.42 | 0.01 | | (Bq/L) |
| Plutonium-239/240 | 0.007 | | | | | | 0.00 | | (Bq/L) |
| Strontium-90 | 7.85 | 8.19 | A | | -4.2 | 5.73 - 10.65 | 0.39 | | (Bq/L) |
| Uranium-234/233 | 0.452 | 0.428 | A | | 5.6 | 0.30 - 0.56 | 0.02 | | (Bq/L) |
| Uranium-238 | 0.457 | 0.444 | A | | 2.9 | 0.31 - 0.58 | 0.02 | | (Bq/L) |
| Zinc-65 | 240 | 220 | A | | 9.1 | 154.00 - 286.00 | 0.2 | L | (Bq/L) |

- Flags:**
- A = Result acceptable Bias <= 20%
 - W = Result acceptable with warning 20% < Bias <= 30%
 - N = Result not acceptable Bias > 30%
 - L = Uncertainty potentially too low (for information purposes only)
 - H = Uncertainty potentially too high (for information purposes only)
 - QL = Detection Limit
 - RW = Report Warning
 - NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

California State Department of Health Services
CDHS01 Sanitation & Radiation Lab.

Berkeley CA 94704

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | FN | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | FN | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | FN | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | FN | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | FN | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | 9.9 | 20.6 | A | | -1.6 | 0.98 - 40.08 | (ug/L) |
| 2,4-Dinitrotoluene | 12.3 | 34.7 | W | | -2.7 | 9.43 - 60.01 | (ug/L) |
| 2,4-Dinitrophenol | NR | 9.2 | FN | | | QL - 26.18 | |
| Diethylphthalate | 33.7 | 20.5 | A | | 1.8 | QL - 42.24 | (ug/L) |
| Anthracene | 3.6 | 23 | W | | -2.3 | QL - 50.05 | (ug/L) |
| Di-n-butylphthalate | 38.2 | 30 | A | | 0.9 | 0.55 - 58.30 | (ug/L) |
| Fluoranthene | NR | 39.5 | FN | | | 6.34 - 73.79 | |
| Pyrene | 19.4 | 29.9 | A | | -1.1 | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | NR | 25.6 | FN | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

CEEA99 Comision Ecuatoriana de Energia Atomica/U.Q.A.
JUAN LARREA 534 Y RIOFRIO

QUITO Pichinch 1

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | 47.47 | 50.8 | A | | -6.6 | 35.56 - 66.04 | | | (mg/L) |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | 0.323 | 0.305 | A | | 5.9 | 0.21 - 0.40 | | | (mg/L) |
| Chromium | 0.00 | | W | | | | | | (mg/L) |
| Copper | 0.00 | | W | | | | | | (mg/L) |
| Nickel | 0.045 | | A | | | | | | (mg/L) |
| Selenium | 0.219 | 0.203 | A | | 7.9 | 0.14 - 0.26 | | | (mg/L) |
| Silver | 0.041 | | | Not Evaluated | | | | | (mg/L) |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.85 | 0.711 | A | | 19.5 | 0.50 - 0.92 | | | (mg/L) |
| Zinc | 5.89 | 5.08 | A | | 15.9 | 3.56 - 6.60 | | | (mg/L) |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | NR | 72.7 | | | | 50.89 - 94.51 | | | |
| Cobalt-57 | NR | 96.8 | | | | 67.76 - 125.84 | | | |
| Cobalt-60 | NR | 270 | | | | 189.00 - 351.00 | | | |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | NR | 395 | | | | 276.50 - 513.50 | | | |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | NR | 0.32 | | | | 0.22 - 0.42 | | | |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | NR | 0.428 | | | | 0.30 - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | | 0.31 - 0.58 | | | |
| Zinc-65 | NR | 220 | | | | 154.00 - 286.00 | | | |

Flags: A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

CEEA99 Comision Ecuatoriana de Energia Atomica/U.Q.A.
 JUAN LARREA 534 Y RIOFRIO

QUITO Pichinch 1

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | 30.37 | | 15 | W | 3.0 | QL - 30.44 | (ug/L) |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | 40.97 | | 23 | A | 2.0 | QL - 50.05 | (ug/L) |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0)
 W = Result acceptable with warning 2.0 < Z-score <=3.0)
 N = Result not acceptable Z-score > 3.0)
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

CESL01 Lawrence Livermore National Laboratory - CES
7000 East Avenue

Livermore CA 94550

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|---------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | 0.669 | 0.635 | A | | 5.4 | 0.44 - 0.83 | 0.02 | | (Bq/L) |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | 71.5 | 72.7 | A | | -1.7 | 50.89 - 94.51 | 5.30 | | (Bq/L) |
| Cobalt-57 | 98.9 | 96.8 | A | | 2.2 | 67.76 - 125.84 | 5.50 | | (Bq/L) |
| Cobalt-60 | 276 | 270 | A | | 2.2 | 189.00 - 351.00 | 10.7 | | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 401 | 395 | A | | 1.5 | 276.50 - 513.50 | 31 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | 0.318 | 0.32 | A | | -0.6 | 0.22 - 0.42 | 0.01 | | (Bq/L) |
| Plutonium-239/240 | 0.00679 | | | | | | 0.00 | | (Bq/L) |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | 0.442 | 0.428 | A | | 3.3 | 0.30 - 0.56 | 0.02 | | (Bq/L) |
| Uranium-238 | 0.445 | 0.444 | A | | 0.2 | 0.31 - 0.58 | 0.02 | | (Bq/L) |
| Zinc-65 | 256 | 220 | A | | 16.4 | 154.00 - 286.00 | 19.7 | | (Bq/L) |

Flags: A = Result acceptable Bias <= 20%
W = Result acceptable with warning 20% < Bias <= 30%
N = Result not acceptable Bias > 30%
L = Uncertainty potentially too low (for information purposes only)
H = Uncertainty potentially too high (for information purposes only)
QL = Detection Limit
RW = Report Warning
NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

CESL01 Lawrence Livermore National Laboratory - CES
7000 East Avenue

Livermore CA 94550

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

CORE01 Enviro-Test Laboratories, LLC
420 WEST 1ST STREET

CASPER WY 82601

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|--------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Arsenic | 0.223 | 0.203 | A | | 9.9 | 0.14 - 0.26 | 0.00 | L | (mg/L) |
| Barium | 54.6 | 50.8 | A | | 7.5 | 35.56 - 66.04 | 0.6 | L | (mg/L) |
| Beryllium | 0.512 | 0.508 | A | | 0.8 | 0.36 - 0.66 | 0.00 | L | (mg/L) |
| Cadmium | 0.315 | 0.305 | A | | 3.3 | 0.21 - 0.40 | 0.00 | L | (mg/L) |
| Selenium | 0.213 | 0.203 | A | | 4.9 | 0.14 - 0.26 | 0.00 | L | (mg/L) |
| Silver | 0.116 | | | Not Evaluated | | | 0.00 | | (mg/L) |
| Thallium | 0.486 | 0.508 | A | | -4.3 | 0.36 - 0.66 | 0.00 | L | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.710 | 0.711 | A | | -0.1 | 0.50 - 0.92 | 0.00 | L | (mg/L) |
| Zinc | 4.65 | 5.08 | A | | -8.5 | 3.56 - 6.60 | 0.06 | L | (mg/L) |
| Americium-241 | 0.84 | 0.635 | N | | 32.3 | 0.44 - 0.83 | 0.05 | | (Bq/L) |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | 65.0 | 72.7 | A | | -10.6 | 50.89 - 94.51 | 1.7 | L | (Bq/L) |
| Cobalt-57 | 92.3 | 96.8 | A | | -4.6 | 67.76 - 125.84 | 1.4 | L | (Bq/L) |
| Cobalt-60 | 268 | 270 | A | | -0.7 | 189.00 - 351.00 | 3.2 | L | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 404 | 395 | A | | 2.3 | 276.50 - 513.50 | 4.1 | L | (Bq/L) |
| Nickel-63 | 182 | 157 | A | | 15.9 | 109.90 - 204.10 | 3.4 | L | (Bq/L) |
| Plutonium-238 | 0.75 | 0.32 | N | | 134.4 | 0.22 - 0.42 | 0.05 | | (Bq/L) |
| Plutonium-239/240 | 0.08 | | | | | | 0.01 | | (Bq/L) |
| Strontium-90 | 13.6 | 8.19 | N | | 66.1 | 5.73 - 10.65 | 0.7 | | (Bq/L) |
| Uranium-234/233 | 0.49 | 0.428 | A | | 14.5 | 0.30 - 0.56 | 0.03 | | (Bq/L) |
| Uranium-238 | 0.48 | 0.444 | A | | 8.1 | 0.31 - 0.58 | 0.03 | | (Bq/L) |
| Zinc-65 | 233 | 220 | A | | 5.9 | 154.00 - 286.00 | 6.1 | L | (Bq/L) |

Flags:

A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

Enviro-Test Laboratories, LLC
CORE01 420 WEST 1ST STREET
 CASPER WY 82601

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

Severn Trent Laboratories, Inc.
CORE02 10703 East Bethany Drive

Aurora CO 80014

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Arsenic | 0.195 | 0.203 | A | | -3.9 | 0.14 - 0.26 | | | (mg/L) |
| Barium | 56.8 | 50.8 | A | | 11.8 | 35.56 - 66.04 | | | (mg/L) |
| Beryllium | 0.485 | 0.508 | A | | -4.5 | 0.36 - 0.66 | | | (mg/L) |
| Cadmium | 0.279 | 0.305 | A | | -8.5 | 0.21 - 0.40 | | | (mg/L) |
| Selenium | 0.184 | 0.203 | A | | -9.4 | 0.14 - 0.26 | | | (mg/L) |
| Silver | 1.36 | | | Not Evaluated | | | | | (mg/L) |
| Thallium | 0.472 | 0.508 | A | | -7.1 | 0.36 - 0.66 | | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.677 | 0.711 | A | | -4.8 | 0.50 - 0.92 | | | (mg/L) |
| Zinc | 4.53 | 5.08 | A | | -10.8 | 3.56 - 6.60 | | | (mg/L) |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | NR | 72.7 | | | | 50.89 - 94.51 | | | |
| Cobalt-57 | NR | 96.8 | | | | 67.76 - 125.84 | | | |
| Cobalt-60 | NR | 270 | | | | 189.00 - 351.00 | | | |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | NR | 395 | | | | 276.50 - 513.50 | | | |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | NR | 0.32 | | | | 0.22 - 0.42 | | | |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | NR | 0.428 | | | | 0.30 - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | | 0.31 - 0.58 | | | |
| Zinc-65 | NR | 220 | | | | 154.00 - 286.00 | | | |

Flags: A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

Severn Trent Laboratories, Inc.
CORE02 10703 East Bethany Drive

Aurora CO 80014

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | 1.3 | 30.2 | A | | -1.4 | QL - 92.64 | (ug/L) |
| 1,3-Dichlorobenzene | 34 | 30.6 | A | | 0.4 | 6.29 - 55.08 | (ug/L) |
| 2,4-Dimethylphenol | 1.1 | 15.9 | A | | -1.6 | QL - 43.53 | (ug/L) |
| 2,4-Dichlorophenol | 15 | 27.6 | A | | -0.7 | QL - 78.93 | (ug/L) |
| 1,2,4-Trichlorobenzene | 22 | 19.5 | A | | 0.5 | 3.13 - 35.93 | (ug/L) |
| Naphthalene | 16 | | 15 | A | 0.2 | QL - 30.44 | (ug/L) |
| 2,4,6-Trichlorophenol | 48 | | | | | | (ug/L) |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | 22 | 20.6 | A | | 0.2 | 0.98 - 40.08 | (ug/L) |
| 2,4-Dinitrotoluene | 38 | 34.7 | A | | 0.4 | 9.43 - 60.01 | (ug/L) |
| 2,4-Dinitrophenol | 12 | 9.2 | A | | 0.5 | QL - 26.18 | (ug/L) |
| Diethylphthalate | 21 | 20.5 | A | | 0.1 | QL - 42.24 | (ug/L) |
| Anthracene | 23 | | 23 | A | -0.1 | QL - 50.05 | (ug/L) |
| Di-n-butylphthalate | 33 | | 30 | A | 0.4 | 0.55 - 58.30 | (ug/L) |
| Fluoranthene | 39 | 39.5 | A | | -0.1 | 6.34 - 73.79 | (ug/L) |
| Pyrene | 29 | 29.9 | A | | -0.1 | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | 24 | 25.6 | A | | -0.2 | 1.89 - 49.84 | (ug/L) |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

LOS ALAMOS NATIONAL LABORATORY
CSTL01 SM30, BIKINI ATOLL ROAD
 LOS ALAMOS NM 87545

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|--------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Antimony | 0.0003 | | | | | | 0.00 | | (mg/L) |
| Arsenic | 0.238 | 0.203 | A | | 17.2 | 0.14 - 0.26 | 0.02 | | (mg/L) |
| Barium | 45 | 50.8 | A | | -11.4 | 35.56 - 66.04 | 4.5 | | (mg/L) |
| Beryllium | 0.46 | 0.508 | A | | -9.4 | 0.36 - 0.66 | 0.04 | | (mg/L) |
| Cadmium | 0.26 | 0.305 | A | | -14.8 | 0.21 - 0.40 | 0.02 | | (mg/L) |
| Chromium | 0.002 | | A | | | | 0.00 | | (mg/L) |
| Copper | 0 | | W | | | | 0.00 | | (mg/L) |
| Lead | 0.001 | | A | | | | 0.00 | | (mg/L) |
| Nickel | 0 | | W | | | | 0.01 | | (mg/L) |
| Selenium | 0.209 | 0.203 | A | | 3.0 | 0.14 - 0.26 | 0.01 | | (mg/L) |
| Silver | 0.030 | | | Not Evaluated | | | 0.00 | | (mg/L) |
| Thallium | 0.477 | 0.508 | A | | -6.1 | 0.36 - 0.66 | 0.01 | L | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.63 | 0.711 | A | | -11.4 | 0.50 - 0.92 | 0.06 | | (mg/L) |
| Zinc | 4.4 | 5.08 | A | | -13.4 | 3.56 - 6.60 | 0.44 | | (mg/L) |
| Americium-241 | 0.64 | 0.635 | A | | 0.8 | 0.44 - 0.83 | 0.02 | | (Bq/L) |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | 73 | 72.7 | A | | 0.4 | 50.89 - 94.51 | 8 | | (Bq/L) |
| Cobalt-57 | 96 | 96.8 | A | | -0.8 | 67.76 - 125.84 | 11 | | (Bq/L) |
| Cobalt-60 | 269 | 270 | A | | -0.4 | 189.00 - 351.00 | 30 | | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 403 | 395 | A | | 2.0 | 276.50 - 513.50 | 45 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | 0.32 | 0.32 | A | | 0.0 | 0.22 - 0.42 | 0.02 | | (Bq/L) |
| Plutonium-239/240 | 0.01 | | | | | | 0.01 | | (Bq/L) |
| Strontium-90 | 3.21 | 8.19 | N | | -60.8 | 5.73 - 10.65 | 0.54 | | (Bq/L) |
| Uranium-234/233 | 7.77 | 0.428 | N | | 1715.4 | 0.30 - 0.56 | 0.77 | | (Bq/L) |
| Uranium-238 | 8.23 | 0.444 | N | | 1753.6 | 0.31 - 0.58 | 0.78 | | (Bq/L) |
| Zinc-65 | 230 | 220 | A | | 4.5 | 154.00 - 286.00 | 26 | | (Bq/L) |

- Flags:** A = Result acceptable Bias <= 20%
 W = Result acceptable with warning 20% < Bias <= 30%
 N = Result not acceptable Bias > 30%
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

LOS ALAMOS NATIONAL LABORATORY
CSTL01 SM30, BIKINI ATOLL ROAD
 LOS ALAMOS NM 87545

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

DATA01 DataChem Laboratories, Inc.
960 West LeVoy Drive
Salt Lake City, UT 84123

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|-------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | NR | 72.7 | | | | 50.89 - 94.51 | | | |
| Cobalt-57 | NR | 96.8 | | | | 67.76 - 125.84 | | | |
| Cobalt-60 | NR | 270 | | | | 189.00 - 351.00 | | | |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | NR | 395 | | | | 276.50 - 513.50 | | | |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | NR | 0.32 | | | | 0.22 - 0.42 | | | |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | NR | 0.428 | | | | 0.30 - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | | 0.31 - 0.58 | | | |
| Zinc-65 | NR | 220 | | | | 154.00 - 286.00 | | | |

Flags: A = Result acceptable Bias <= 20%
W = Result acceptable with warning 20% < Bias <= 30%
N = Result not acceptable Bias > 30%
L = Uncertainty potentially too low (for infomation purposes only)
H = Uncertainty potentially too high (for information purposes only)
QL = Detection Limit
RW = Report Warning
NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

DATA01 DataChem Laboratories, Inc.
960 West LeVoy Drive
Salt Lake City UT 84123

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | 27 | 30.6 | A | | -0.5 | 6.29 - 55.08 | (ug/L) |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | 5.3 | 27.6 | A | | -1.3 | QL - 78.93 | (ug/L) |
| 1,2,4-Trichlorobenzene | 19 | 19.5 | A | | -0.1 | 3.13 - 35.93 | (ug/L) |
| Naphthalene | 15 | | 15 | A | 0.0 | QL - 30.44 | (ug/L) |
| 2,4,6-Trichlorophenol | 69 | | | | | | (ug/L) |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | 23 | 20.6 | A | | 0.4 | 0.98 - 40.08 | (ug/L) |
| 2,4-Dinitrotoluene | 39 | 34.7 | A | | 0.5 | 9.43 - 60.01 | (ug/L) |
| 2,4-Dinitrophenol | 11 | 9.2 | A | | 0.3 | QL - 26.18 | (ug/L) |
| Diethylphthalate | 22 | 20.5 | A | | 0.2 | QL - 42.24 | (ug/L) |
| Anthracene | 22 | | 23 | A | -0.2 | QL - 50.05 | (ug/L) |
| Di-n-butylphthalate | 31 | 30 | A | | 0.2 | 0.55 - 58.30 | (ug/L) |
| Fluoranthene | 44 | 39.5 | A | | 0.3 | 6.34 - 73.79 | (ug/L) |
| Pyrene | 25 | 29.9 | A | | -0.5 | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | 25 | 25.6 | A | | -0.1 | 1.89 - 49.84 | (ug/L) |

Flags: A = Result acceptable Z-score <=2.0)
 W = Result acceptable with warning 2.0 < Z-score <=3.0)
 N = Result not acceptable Z-score > 3.0)
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

EMBW01 BWXT of Ohio Inc., Mound, Environmental Monitoring
BWXT of Ohio, Inc.

Miamisburg OH 45343

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | NR | 72.7 | | | | 50.89 - 94.51 | | | |
| Cobalt-57 | NR | 96.8 | | | | 67.76 - 125.84 | | | |
| Cobalt-60 | NR | 270 | | | | 189.00 - 351.00 | | | |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | NR | 395 | | | | 276.50 - 513.50 | | | |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | 0.339 | 0.32 | A | | 5.9 | 0.22 - 0.42 | 0.02 | | (Bq/L) |
| Plutonium-239/240 | 0.004 | | | | | | 0.00 | | (Bq/L) |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | 0.457 | 0.428 | A | | 6.8 | 0.30 - 0.56 | 0.03 | | (Bq/L) |
| Uranium-235 | 0.021 | | | | | | 0.00 | | (Bq/L) |
| Uranium-238 | 0.473 | 0.444 | A | | 6.5 | 0.31 - 0.58 | 0.03 | | (Bq/L) |
| Zinc-65 | NR | 220 | | | | 154.00 - 286.00 | | | |

Flags:

A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

EMBW01 BWXT of Ohio Inc., Mound, Environmental Monitoring
BWXT of Ohio, Inc.

Miamisburg OH 45343

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

U. S. EPA Office of Radiation and Indoor Air
EPAL01
 944 E. Harmon Ave.

Las Vegas NV 89119

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | 70.62 | 72.7 | A | | -2.9 | 50.89 - 94.51 | 4.93 | | (Bq/L) |
| Cobalt-57 | 93.58 | 96.8 | A | | -3.3 | 67.76 - 125.84 | 5.59 | | (Bq/L) |
| Cobalt-60 | 276.91 | 270 | A | | 2.6 | 189.00 - 351.00 | 16.0 | | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 402.49 | 395 | A | | 1.9 | 276.50 - 513.50 | 26.3 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | .297 | 0.32 | A | | -7.2 | 0.22 - 0.42 | .026 | | (Bq/L) |
| Plutonium-239/240 | 0 | | | | | | .03 | | (Bq/L) |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | NR | 0.428 | | | | 0.30 - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | | 0.31 - 0.58 | | | |
| Zinc-65 | 237.51 | 220 | A | | 8.0 | 154.00 - 286.00 | 14.7 | | (Bq/L) |

Flags:

- A = Result acceptable Bias <= 20%
- W = Result acceptable with warning 20% < Bias <= 30%
- N = Result not acceptable Bias > 30%
- L = Uncertainty potentially too low (for information purposes only)
- H = Uncertainty potentially too high (for information purposes only)
- QL = Detection Limit
- RW = Report Warning
- NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

U. S. EPA Office of Radiation and Indoor Air
EPAL01
 944 E. Harmon Ave.

Las Vegas NV 89119

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

Public Health Laboratories
ERCL01 1610 N.E. 150 th Street

Shoreline WA 98155

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|----------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Antimony | <0.002 | | | | | | | | (mg/L) |
| Arsenic | 1.98E-01 | 0.203 | A | | -2.5 | 0.14 - 0.26 | 1.50 | L | (mg/L) |
| Barium | 5.11E+01 | 50.8 | A | | 0.6 | 35.56 - 66.04 | 9.30 | L | (mg/L) |
| Beryllium | 5.34E-01 | 0.508 | A | | 5.1 | 0.36 - 0.66 | 9.90 | L | (mg/L) |
| Cadmium | 3.14E-01 | 0.305 | A | | 3.0 | 0.21 - 0.40 | 1.53 | L | (mg/L) |
| Chromium | <0.01 | | A | | | | | | (mg/L) |
| Copper | <0.02 | | A | | | | | | (mg/L) |
| Lead | <0.002 | | A | | | | | | (mg/L) |
| Nickel | <0.02 | | A | | | | | | (mg/L) |
| Selenium | 2.14E-01 | 0.203 | A | | 5.4 | 0.14 - 0.26 | 3.90 | L | (mg/L) |
| Silver | 6.16E-01 | | | Not Evaluated | | | | | (mg/L) |
| Thallium | 4.52E-01 | 0.508 | A | | -11.0 | 0.36 - 0.66 | 1.23 | L | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 7.28E-01 | 0.711 | A | | 2.4 | 0.50 - 0.92 | 2.33 | L | (mg/L) |
| Zinc | 5.10E+00 | 5.08 | A | | 0.4 | 3.56 - 6.60 | 1.67 | L | (mg/L) |
| Americium-241 | 0.642 | 0.635 | A | | 1.1 | 0.44 - 0.83 | 0.04 | | (Bq/L) |
| Cesium-134 | 71.0 | 82.9 | A | | -14.4 | 58.03 - 107.77 | 1.5 | L | (Bq/L) |
| Cesium-137 | 67.3 | 72.7 | A | | -7.4 | 50.89 - 94.51 | 2.6 | | (Bq/L) |
| Cobalt-57 | 90.7 | 96.8 | A | | -6.3 | 67.76 - 125.84 | 1.9 | L | (Bq/L) |
| Cobalt-60 | 264 | 270 | A | | -2.2 | 189.00 - 351.00 | 2 | L | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 394 | 395 | A | | -0.3 | 276.50 - 513.50 | 15 | | (Bq/L) |
| Nickel-63 | 171 | 157 | A | | 8.9 | 109.90 - 204.10 | 6 | | (Bq/L) |
| Plutonium-238 | 0.339 | 0.32 | A | | 5.9 | 0.22 - 0.42 | 0.04 | | (Bq/L) |
| Plutonium-239/240 | 0.022 | | | | | | 0.01 | | (Bq/L) |
| Potassium-40 | 4.44 | | | | | | 2.51 | | (Bq/L) |
| Strontium-90 | 9.01 | 8.19 | A | | 10.0 | 5.73 - 10.65 | 0.98 | | (Bq/L) |
| Uranium-234/233 | 0.46 | 0.428 | A | | 7.5 | 0.30 - 0.56 | 0.04 | | (Bq/L) |
| Uranium-238 | 0.50 | 0.444 | A | | 12.6 | 0.31 - 0.58 | 0.04 | | (Bq/L) |
| Zinc-65 | 230 | 220 | A | | 4.5 | 154.00 - 286.00 | 5 | L | (Bq/L) |

Flags: A = Result acceptable Bias <= 20%
W = Result acceptable with warning 20% < Bias <= 30%
N = Result not acceptable Bias > 30%
L = Uncertainty potentially too low (for information purposes only)
H = Uncertainty potentially too high (for information purposes only)
QL = Detection Limit
RW = Report Warning
NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

Public Health Laboratories
ERCL01 1610 N.E. 150 th Street
 Shoreline WA 98155

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

ERHD99 Radiation Protection Bureau ERHD NMS
775 Brookfield Road AL6302D1

Ottawa Ontario

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | NR | 72.7 | | | | 50.89 - 94.51 | | | |
| Cobalt-57 | NR | 96.8 | | | | 67.76 - 125.84 | | | |
| Cobalt-60 | NR | 270 | | | | 189.00 - 351.00 | | | |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | NR | 395 | | | | 276.50 - 513.50 | | | |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | NR | 0.32 | | | | 0.22 - 0.42 | | | |
| Strontium-90 | 7.92 | 8.19 | A | | -3.3 | 5.73 - 10.65 | 0.38 | | (Bq/L) |
| Uranium-234/233 | NR | 0.428 | | | | 0.30 - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | | 0.31 - 0.58 | | | |
| Zinc-65 | NR | 220 | | | | 154.00 - 286.00 | | | |

Flags:

- A = Result acceptable Bias <= 20%
- W = Result acceptable with warning 20% < Bias <= 30%
- N = Result not acceptable Bias > 30%
- L = Uncertainty potentially too low (for infomation purposes only)
- H = Uncertainty potentially too high (for information purposes only)
- QL = Detection Limit
- RW = Report Warning
- NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

ERHD99 Radiation Protection Bureau ERHD NMS
775 Brookfield Road AL6302D1

Ottawa Ontario

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

RMI Environmental Services
ERMI01
 1601 East 21st Street

Ashtabula OH 44004

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | .040 | 0.036 | | | | | .001 | | (mg/L) |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | 69 | 72.7 | A | | -5.1 | 50.89 - 94.51 | 5 | | (Bq/L) |
| Cobalt-57 | 92 | 96.8 | A | | -5.0 | 67.76 - 125.84 | 6 | | (Bq/L) |
| Cobalt-60 | 255 | 270 | A | | -5.6 | 189.00 - 351.00 | 16 | | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 384 | 395 | A | | -2.8 | 276.50 - 513.50 | 23 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | NR | 0.32 | | | | 0.22 - 0.42 | | | |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | .47 | 0.428 | A | | 9.8 | 0.30 - 0.56 | .05 | | (Bq/L) |
| Uranium-238 | .47 | 0.444 | A | | 5.9 | 0.31 - 0.58 | .05 | | (Bq/L) |
| Zinc-65 | 211 | 220 | A | | -4.1 | 154.00 - 286.00 | 13 | | (Bq/L) |

Flags: A = Result acceptable Bias <= 20%
 W = Result acceptable with warning 20% < Bias <= 30%
 N = Result not acceptable Bias > 30%
 L = Uncertainty potentially too low (for infomation purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

RMI Environmental Services
ERMI01
 1601 East 21st Street
 Ashtabula OH 44004

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

Fluor Fernald
FERM01 P.O. Box 538704

Cincinnati, OH 45253

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|---------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Antimony | 0.0376 | | | | | | .001 | | (mg/L) |
| Arsenic | 0.2508 | 0.203 | W | | 23.5 | 0.14 - 0.26 | 0.01 | | (mg/L) |
| Barium | 44.64 | 50.8 | A | | -12.1 | 35.56 - 66.04 | 0.21 | L | (mg/L) |
| Beryllium | 0.5113 | 0.508 | A | | 0.6 | 0.36 - 0.66 | 0.00 | L | (mg/L) |
| Cadmium | 0.3222 | 0.305 | A | | 5.6 | 0.21 - 0.40 | 0.00 | L | (mg/L) |
| Chromium | 0.0031 | | A | | | | 0.00 | | (mg/L) |
| Copper | 0.0085 | | A | | | | 0.00 | | (mg/L) |
| Lead | <0.0061 | | A | | | | 0 | | (mg/L) |
| Nickel | 0.0050 | | A | | | | .000 | | (mg/L) |
| Selenium | 0.2077 | 0.203 | A | | 2.3 | 0.14 - 0.26 | 0.00 | L | (mg/L) |
| Silver | 0.0700 | | | Not Evaluated | | | 0.00 | | (mg/L) |
| Thallium | 0.469 | 0.508 | A | | -7.7 | 0.36 - 0.66 | 0.00 | L | (mg/L) |
| Uranium-Total | 0.0381 | 0.036 | | | | | 0.00 | | (mg/L) |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.7191 | 0.711 | A | | 1.1 | 0.50 - 0.92 | 0.00 | L | (mg/L) |
| Zinc | 5.3247 | 5.08 | A | | 4.8 | 3.56 - 6.60 | 0.01 | L | (mg/L) |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | 78.7 | 82.9 | A | | -5.1 | 58.03 - 107.77 | 5.9 | | (Bq/L) |
| Cesium-137 | 68.6 | 72.7 | A | | -5.6 | 50.89 - 94.51 | 7.4 | | (Bq/L) |
| Cobalt-57 | 96.7 | 96.8 | A | | -0.1 | 67.76 - 125.84 | 9.8 | | (Bq/L) |
| Cobalt-60 | 274 | 270 | A | | 1.5 | 189.00 - 351.00 | 19 | | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 429 | 395 | A | | 8.6 | 276.50 - 513.50 | 43 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | 0.325 | 0.32 | A | | 1.6 | 0.22 - 0.42 | .082 | H | (Bq/L) |
| Plutonium-239/240 | <0.26 | | | | | | <0.0 | | (Bq/L) |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | 0.501 | 0.428 | A | | 17.1 | 0.30 - 0.56 | 0.11 | H | (Bq/L) |
| Uranium-238 | 0.470 | 0.444 | A | | 5.9 | 0.31 - 0.58 | 0.11 | H | (Bq/L) |
| Zinc-65 | NR | 220 | | | | 154.00 - 286.00 | | | |

- Flags:** A = Result acceptable Bias <= 20%
 W = Result acceptable with warning 20% < Bias <= 30%
 N = Result not acceptable Bias > 30%
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

Fluor Fernald
FERM01 P.O. Box 538704
 Cincinnati, OH 45253

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

General Engineering Laboratories Inc.
GENE01 2040 Savage Road

Charleston SC 29417

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|---------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Arsenic | 0.208 | 0.203 | A | | 2.5 | 0.14 - 0.26 | 0.04 | H | (mg/L) |
| Barium | 50.5 | 50.8 | A | | -0.6 | 35.56 - 66.04 | 10.1 | | (mg/L) |
| Beryllium | 0.520 | 0.508 | A | | 2.4 | 0.36 - 0.66 | 0.10 | H | (mg/L) |
| Cadmium | 0.314 | 0.305 | A | | 3.0 | 0.21 - 0.40 | 0.06 | H | (mg/L) |
| Selenium | 0.202 | 0.203 | A | | -0.5 | 0.14 - 0.26 | 0.04 | | (mg/L) |
| Silver | 1.08 | | | Not Evaluated | | | 0.21 | | (mg/L) |
| Thallium | 0.538 | 0.508 | A | | 5.9 | 0.36 - 0.66 | 0.10 | H | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.753 | 0.711 | A | | 5.9 | 0.50 - 0.92 | 0.15 | H | (mg/L) |
| Zinc | 5.17 | 5.08 | A | | 1.8 | 3.56 - 6.60 | 1.03 | | (mg/L) |
| Americium-241 | 0.725 | 0.635 | A | | 14.2 | 0.44 - 0.83 | 0.13 | | (Bq/L) |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | 67.0 | 72.7 | A | | -7.8 | 50.89 - 94.51 | 7.84 | | (Bq/L) |
| Cobalt-57 | 89.9 | 96.8 | A | | -7.1 | 67.76 - 125.84 | 11.1 | | (Bq/L) |
| Cobalt-60 | 271 | 270 | A | | 0.4 | 189.00 - 351.00 | 31.1 | | (Bq/L) |
| Iron-55 | 73.5 | 97 | W | | -24.2 | 67.90 - 126.10 | 8.84 | | (Bq/L) |
| Manganese-54 | 388 | 395 | A | | -1.8 | 276.50 - 513.50 | 49.9 | | (Bq/L) |
| Nickel-63 | 131 | 157 | A | | -16.6 | 109.90 - 204.10 | 8.40 | | (Bq/L) |
| Plutonium-238 | 0.360 | 0.32 | A | | 12.5 | 0.22 - 0.42 | 0.06 | | (Bq/L) |
| Plutonium-239/240 | 0.00345 | | | | | | 0.00 | | (Bq/L) |
| Strontium-90 | 5.84 | 8.19 | W | | -28.7 | 5.73 - 10.65 | 0.37 | | (Bq/L) |
| Uranium-234/233 | 0.477 | 0.428 | A | | 11.4 | 0.30 - 0.56 | 0.06 | | (Bq/L) |
| Uranium-238 | 0.481 | 0.444 | A | | 8.3 | 0.31 - 0.58 | 0.06 | | (Bq/L) |
| Zinc-65 | 234 | 220 | A | | 6.4 | 154.00 - 286.00 | 27.6 | | (Bq/L) |

Flags:

A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

General Engineering Laboratories Inc.
GENE01 2040 Savage Road

Charleston SC 29417

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | 26.8 | 30.6 | A | | -0.5 | 6.29 - 55.08 | (ug/L) |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | 17.3 | 19.5 | A | | -0.4 | 3.13 - 35.93 | (ug/L) |
| Naphthalene | 13.6 | | 15 | A | -0.3 | QL - 30.44 | (ug/L) |
| 2,4,6-Trichlorophenol | 79.8 | | | | | | (ug/L) |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | 18.9 | 20.6 | A | | -0.3 | 0.98 - 40.08 | (ug/L) |
| 2,4-Dinitrotoluene | 32.1 | 34.7 | A | | -0.3 | 9.43 - 60.01 | (ug/L) |
| 2,4-Dinitrophenol | 18.0 | 9.2 | A | | 1.6 | QL - 26.18 | (ug/L) |
| Diethylphthalate | 19.2 | 20.5 | A | | -0.2 | QL - 42.24 | (ug/L) |
| Anthracene | 18.8 | 23 | A | | -0.6 | QL - 50.05 | (ug/L) |
| Di-n-butylphthalate | 26.3 | 30 | A | | -0.3 | 0.55 - 58.30 | (ug/L) |
| Fluoranthene | 32.6 | 39.5 | A | | -0.7 | 6.34 - 73.79 | (ug/L) |
| Pyrene | 24.1 | 29.9 | A | | -0.6 | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | 21.0 | 25.6 | A | | -0.6 | 1.89 - 49.84 | (ug/L) |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

FGL Environmental
GROW01
 853 Corporation St.

Santa Paula CA 93060

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | 0.21 | 0.203 | A | | 3.4 | 0.14 - 0.26 | 0.01 | | (mg/L) |
| Barium | 43.0 | 50.8 | A | | -15.4 | 35.56 - 66.04 | 0.1 | L | (mg/L) |
| Beryllium | 0.47 | 0.508 | A | | -7.5 | 0.36 - 0.66 | 0.02 | | (mg/L) |
| Cadmium | 0.31 | 0.305 | A | | 1.6 | 0.21 - 0.40 | 0.01 | | (mg/L) |
| Selenium | 0.20 | 0.203 | A | | -1.5 | 0.14 - 0.26 | 0.01 | | (mg/L) |
| Thallium | 0.51 | 0.508 | A | | 0.4 | 0.36 - 0.66 | 0.02 | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.72 | 0.711 | A | | 1.3 | 0.50 - 0.92 | 0.02 | L | (mg/L) |
| Zinc | 5.2 | 5.08 | A | | 2.4 | 3.56 - 6.60 | 0.1 | L | (mg/L) |
| Americium-241 | 0.57 | 0.635 | A | | -10.2 | 0.44 - 0.83 | 0.06 | | (Bq/L) |
| Cesium-134 | 71.2 | 82.9 | A | | -14.1 | 58.03 - 107.77 | 2.5 | | (Bq/L) |
| Cesium-137 | 67.7 | 72.7 | A | | -6.9 | 50.89 - 94.51 | 1.7 | L | (Bq/L) |
| Cobalt-57 | 92.6 | 96.8 | A | | -4.3 | 67.76 - 125.84 | 1.7 | L | (Bq/L) |
| Cobalt-60 | 268.6 | 270 | A | | -0.5 | 189.00 - 351.00 | 8.3 | | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 390.6 | 395 | A | | -1.1 | 276.50 - 513.50 | 8.3 | L | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | 1.041 | 0.32 | N | | 225.3 | 0.22 - 0.42 | 0.08 | | (Bq/L) |
| Plutonium-239/240 | 0.924 | | | | | | 0.07 | | (Bq/L) |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | 0.2686 | 0.428 | N | | -37.2 | 0.30 - 0.56 | 0.03 | | (Bq/L) |
| Uranium-235 | 0.0 | | | | | | 0.02 | | (Bq/L) |
| Uranium-238 | 0.3914 | 0.444 | A | | -11.8 | 0.31 - 0.58 | 0.04 | | (Bq/L) |
| Zinc-65 | 220.8 | 220 | A | | 0.4 | 154.00 - 286.00 | 4.7 | L | (Bq/L) |

Flags: A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

FGL Environmental
GROW01
 853 Corporation St.

Santa Paula CA 93060

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

HISL99

Hydrometeorological Institute of Slovenia

Vojkova 1b

Ljubljana 1000 Slovenia 1000

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | 0.306 | 0.305 | A | | 0.3 | 0.21 - 0.40 | 0.01 | | (mg/L) |
| Chromium | <0.1 | | | A | | | | | (mg/L) |
| Copper | <0.1 | | | A | | | | | (mg/L) |
| Lead | <0.1 | | | A | | | | | (mg/L) |
| Nickel | <0.1 | | | A | | | | | (mg/L) |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | 5.09 | 5.08 | A | | 0.2 | 3.56 - 6.60 | 0.13 | L | (mg/L) |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | NR | 72.7 | | | | 50.89 - 94.51 | | | |
| Cobalt-57 | NR | 96.8 | | | | 67.76 - 125.84 | | | |
| Cobalt-60 | NR | 270 | | | | 189.00 - 351.00 | | | |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | NR | 395 | | | | 276.50 - 513.50 | | | |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | NR | 0.32 | | | | 0.22 - 0.42 | | | |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | NR | 0.428 | | | | 0.30 - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | | 0.31 - 0.58 | | | |
| Zinc-65 | NR | 220 | | | | 154.00 - 286.00 | | | |

Flags: A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

HISL99 Hydrometeorological Institute of Slovenia
Vojkova 1b

Ljubljana 1000 Slovenia 1000

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | 30.46 | 15 | N | | 3.0 | QL - 30.44 | (ug/L) |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | 40.11 | 23 | A | | 1.9 | QL - 50.05 | (ug/L) |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | 56.43 | 39.5 | A | | 1.5 | 6.34 - 73.79 | (ug/L) |
| Pyrene | 47.99 | 29.9 | A | | 1.7 | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | 31.82 | 25.6 | A | | 0.7 | 1.89 - 49.84 | (ug/L) |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

HWRL01 Lawrence Livermore National Laboratory - CES
7000 East Avenue

Livermore CA 94550

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|--------|-----------|------|---------------|-----------------|------------------|-----------|-----------|--------|
| Antimony | 0 | | W | | | | | | (mg/L) |
| Arsenic | 0.191 | 0.203 | A | | -5.9 | 0.14 - 0.26 | | | (mg/L) |
| Barium | 48.6 | 50.8 | A | | -4.3 | 35.56 - 66.04 | | | (mg/L) |
| Beryllium | 0.503 | 0.508 | A | | -1.0 | 0.36 - 0.66 | | | (mg/L) |
| Cadmium | 0.285 | 0.305 | A | | -6.6 | 0.21 - 0.40 | | | (mg/L) |
| Chromium | 0 | | W | | | | | | (mg/L) |
| Cobalt | 0 | | W | | | | | | (mg/L) |
| Copper | 0 | | W | | | | | | (mg/L) |
| Lead | 0 | | W | | | | | | (mg/L) |
| Manganese | 0 | | W | | | | | | (mg/L) |
| Mercury | 0 | | W | | | | | | (mg/L) |
| Molybdenum | 0 | | W | | | | | | (mg/L) |
| Nickel | 0 | | W | | | | | | (mg/L) |
| Potassium | 3.61 | | | | | | | | (mg/L) |
| Selenium | 0.194 | 0.203 | A | | -4.4 | 0.14 - 0.26 | | | (mg/L) |
| Silver | 1.47 | | | Not Evaluated | | | | | (mg/L) |
| Thallium | 0.444 | 0.508 | A | | -12.6 | 0.36 - 0.66 | | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.707 | 0.711 | A | | -0.6 | 0.50 - 0.92 | | | (mg/L) |
| Zinc | 5.18 | 5.08 | A | | 2.0 | 3.56 - 6.60 | | | (mg/L) |
| Americium-241 | 0.639 | 0.635 | A | | 0.6 | 0.44 - 0.83 | 0.14 | H | (Bq/L) |
| Cesium-134 | NR | 82.9 | | | 58.03 - 107.77 | | | | |
| Cesium-137 | 69 | 72.7 | A | | -5.1 | 50.89 - 94.51 | 2.4 | | (Bq/L) |
| Cobalt-57 | 92 | 96.8 | A | | -5.0 | 67.76 - 125.84 | 1.9 | L | (Bq/L) |
| Cobalt-60 | 260 | 270 | A | | -3.7 | 189.00 - 351.00 | 2.8 | L | (Bq/L) |
| Iron-55 | NR | 97 | | | 67.90 - 126.10 | | | | |
| Manganese-54 | 390 | 395 | A | | -1.3 | 276.50 - 513.50 | 5.2 | L | (Bq/L) |
| Nickel-63 | NR | 157 | | | 109.90 - 204.10 | | | | |
| Plutonium-238 | 0.315 | 0.32 | A | | -1.6 | 0.22 - 0.42 | 0.01 | | (Bq/L) |
| Plutonium-239/240 | 0.0231 | | | | | | 0.00 | | (Bq/L) |
| Strontium-90 | NR | 8.19 | | | 5.73 - 10.65 | | | | |
| Uranium-234/233 | 0.534 | 0.428 | W | | 24.8 | 0.30 - 0.56 | 0.02 | | (Bq/L) |
| Uranium-238 | 0.516 | 0.444 | A | | 16.2 | 0.31 - 0.58 | 0.03 | | (Bq/L) |
| Zinc-65 | 220 | 220 | A | | 0.0 | 154.00 - 286.00 | 5.1 | L | (Bq/L) |

- Flags:** A = Result acceptable Bias <= 20%
 W = Result acceptable with warning 20% < Bias <= 30%
 N = Result not acceptable Bias > 30%
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

HWRL01 Lawrence Livermore National Laboratory - CES
7000 East Avenue

Livermore CA 94550

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

IDGR01 Oak Ridge National Laboratory-Internal Dosimetry Group
Bethel Valley Road

Oak Ridge TN 37831

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | 0.747 | 0.635 | A | | 17.6 | 0.44 - 0.83 | 0.09 | | (Bq/L) |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | 62.90 | 72.7 | A | | -13.5 | 50.89 - 94.51 | 4.92 | | (Bq/L) |
| Cobalt-57 | 95.00 | 96.8 | A | | -1.9 | 67.76 - 125.84 | 3.53 | | (Bq/L) |
| Cobalt-60 | 269.09 | 270 | A | | -0.3 | 189.00 - 351.00 | 4.88 | L | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 395.74 | 395 | A | | 0.2 | 276.50 - 513.50 | 14.0 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | 0.348 | 0.32 | A | | 8.8 | 0.22 - 0.42 | 0.04 | | (Bq/L) |
| Strontium-90 | 8.54 | 8.19 | A | | 4.3 | 5.73 - 10.65 | 1.45 | | (Bq/L) |
| Uranium-234/233 | 0.399 | 0.428 | A | | -6.8 | 0.30 - 0.56 | 0.04 | | (Bq/L) |
| Uranium-235 | 0.013 | | | | | | 0.00 | | (Bq/L) |
| Uranium-238 | 0.401 | 0.444 | A | | -9.7 | 0.31 - 0.58 | 0.04 | | (Bq/L) |
| Zinc-65 | 235.67 | 220 | A | | 7.1 | 154.00 - 286.00 | 12.1 | | (Bq/L) |

- Flags:**
- A = Result acceptable Bias <= 20%
 - W = Result acceptable with warning 20% < Bias <= 30%
 - N = Result not acceptable Bias > 30%
 - L = Uncertainty potentially too low (for information purposes only)
 - H = Uncertainty potentially too high (for information purposes only)
 - QL = Detection Limit
 - RW = Report Warning
 - NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

IDGR01 Oak Ridge National Laboratory-Internal Dosimetry Group
Bethel Valley Road

Oak Ridge TN 37831

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

IEMA99 Laboratory of Analytical Ecotoxicology, Severtzov Institute
 Tion Leninsky pt., 33
 Moscow 117011

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | 0.243 | 0.203 | A | | 19.7 | 0.14 - 0.26 | 0.03 | | (mg/L) |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | 0.969 | 0.508 | N | | 90.7 | 0.36 - 0.66 | 0.05 | | (mg/L) |
| Cadmium | 0.536 | 0.305 | N | | 75.7 | 0.21 - 0.40 | 0.02 | | (mg/L) |
| Copper | 0.037 | | A | | | | 0.00 | | (mg/L) |
| Selenium | 0.60 | 0.203 | N | | 195.6 | 0.14 - 0.26 | 0.08 | | (mg/L) |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | 4.158 | 5.08 | A | | -18.1 | 3.56 - 6.60 | 0.39 | | (mg/L) |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | NR | 72.7 | | | | 50.89 - 94.51 | | | |
| Cobalt-57 | NR | 96.8 | | | | 67.76 - 125.84 | | | |
| Cobalt-60 | NR | 270 | | | | 189.00 - 351.00 | | | |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | NR | 395 | | | | 276.50 - 513.50 | | | |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | NR | 0.32 | | | | 0.22 - 0.42 | | | |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | NR | 0.428 | | | | 0.30 - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | | 0.31 - 0.58 | | | |
| Zinc-65 | NR | 220 | | | | 154.00 - 286.00 | | | |

Flags: A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

IEMA99 Laboratory of Analytical Ecotoxicology, Severtzov Institute
 Tion Leninsky pt., 33
 Moscow 117011

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | 4.5 | 23.9 | | | | | (ug/L) |
| 2-Chlorophenol | 8.00 | 30.2 | A | | -1.1 | QL - 92.64 | (ug/L) |
| 1,3-Dichlorobenzene | NR | 30.6 | | FN | | 6.29 - 55.08 | |
| 1,4-Dichlorobenzene | 4.12 | | N | FP | | | (ug/L) |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | 6.17 | 27.6 | A | | -1.3 | QL - 78.93 | (ug/L) |
| 1,2,4-Trichlorobenzene | 2.56 | 19.5 | N | | -3.1 | 3.13 - 35.93 | (ug/L) |
| Naphthalene | 2.09 | | W | | -2.5 | QL - 30.44 | (ug/L) |
| 2,6-Dichlorophenol | 6.55 | 39.1 | | | | | (ug/L) |
| 2,6-Dinitrotoluene | 6.13 | 20.6 | W | | -2.2 | 0.98 - 40.08 | (ug/L) |
| 2,4-Dinitrotoluene | NR | 34.7 | | FN | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | 4.13 | 9.2 | A | | -0.9 | QL - 26.18 | (ug/L) |
| Diethylphthalate | 4.79 | 20.5 | W | | -2.2 | QL - 42.24 | (ug/L) |
| Phanthrene | 6.5 | | N | FP | | | (ug/L) |
| Anthracene | NR | 23 | | FN | | QL - 50.05 | |
| Di-n-butylphthalate | 6.53 | 30 | W | | -2.4 | 0.55 - 58.30 | (ug/L) |
| Fluoranthene | 9.06 | 39.5 | W | | -2.8 | 6.34 - 73.79 | (ug/L) |
| Pyrene | 7.32 | 29.9 | W | | -2.3 | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | 6.40 | 25.6 | W | | -2.4 | 1.89 - 49.84 | (ug/L) |

Flags: A = Result acceptable Z-score <=2.0)
 W = Result acceptable with warning 2.0 < Z-score <=3.0)
 N = Result not acceptable Z-score > 3.0)
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

IHPH99 Radiation Hygiene Laboratory, Inst. Of Public Health
Str. Dr. Leonte nr. 1-3

Bucharest sector5 76256

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | 95.0 | 82.9 | A | | 14.6 | 58.03 - 107.77 | 11.7 | | (Bq/L) |
| Cesium-137 | 71.5 | 72.7 | A | | -1.7 | 50.89 - 94.51 | 8.8 | | (Bq/L) |
| Cobalt-57 | 98.1 | 96.8 | A | | 1.3 | 67.76 - 125.84 | 10.3 | | (Bq/L) |
| Cobalt-60 | 285.6 | 270 | A | | 5.8 | 189.00 - 351.00 | 30.0 | | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 409.5 | 395 | A | | 3.7 | 276.50 - 513.50 | 42.4 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | NR | 0.32 | | | | 0.22 - 0.42 | | | |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | NR | 0.428 | | | | 0.30 - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | | 0.31 - 0.58 | | | |
| Zinc-65 | 249.9 | 220 | A | | 13.6 | 154.00 - 286.00 | 31.2 | | (Bq/L) |

Flags: A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for infomation purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

IHPH99 Radiation Hygiene Laboratory, Inst. Of Public Health
Str. Dr. Leonte nr. 1-3

Bucharest sector5 76256

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

KEMRON Environmental Services
KSEL01 109 Starlite Park

Marietta OH 45750

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Arsenic | 0.183 | 0.203 | A | | -9.9 | 0.14 - 0.26 | | | (mg/L) |
| Barium | 48.2 | 50.8 | A | | -5.1 | 35.56 - 66.04 | | | (mg/L) |
| Beryllium | 0.486 | 0.508 | A | | -4.3 | 0.36 - 0.66 | | | (mg/L) |
| Cadmium | 0.314 | 0.305 | A | | 3.0 | 0.21 - 0.40 | | | (mg/L) |
| Selenium | .200 | 0.203 | A | | -1.5 | 0.14 - 0.26 | | | (mg/L) |
| Silver | 0.910 | | | Not Evaluated | | | | | (mg/L) |
| Thallium | 0.479 | 0.508 | A | | -5.7 | 0.36 - 0.66 | | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.700 | 0.711 | A | | -1.5 | 0.50 - 0.92 | | | (mg/L) |
| Zinc | 5.01 | 5.08 | A | | -1.4 | 3.56 - 6.60 | | | (mg/L) |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | NR | 72.7 | | | | 50.89 - 94.51 | | | |
| Cobalt-57 | NR | 96.8 | | | | 67.76 - 125.84 | | | |
| Cobalt-60 | NR | 270 | | | | 189.00 - 351.00 | | | |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | NR | 395 | | | | 276.50 - 513.50 | | | |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | NR | 0.32 | | | | 0.22 - 0.42 | | | |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | NR | 0.428 | | | | 0.30 - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | | 0.31 - 0.58 | | | |
| Zinc-65 | NR | 220 | | | | 154.00 - 286.00 | | | |

Flags: A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

KEMRON Environmental Services
KSEL01 109 Starlite Park

Marietta OH 45750

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | 18.7 | 30.6 | A | | -1.5 | 6.29 - 55.08 | (ug/L) |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | 12.2 | 19.5 | A | | -1.3 | 3.13 - 35.93 | (ug/L) |
| Naphthalene | 9.56 | 15 | A | | -1.1 | QL - 30.44 | (ug/L) |
| 2,4,6-Trichlorophenol | 47.1 | | | | | | (ug/L) |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | 13.3 | 20.6 | A | | -1.1 | 0.98 - 40.08 | (ug/L) |
| 2,4-Dinitrotoluene | 22.5 | 34.7 | A | | -1.4 | 9.43 - 60.01 | (ug/L) |
| 2,4-Dinitrophenol | NR | 9.2 | | FN | | QL - 26.18 | |
| Diethylphthalate | 13.4 | 20.5 | A | | -1.0 | QL - 42.24 | (ug/L) |
| Anthracene | 14.1 | 23 | A | | -1.1 | QL - 50.05 | (ug/L) |
| Di-n-butylphthalate | 18.6 | 30 | A | | -1.1 | 0.55 - 58.30 | (ug/L) |
| Fluoranthene | 24.2 | 39.5 | A | | -1.4 | 6.34 - 73.79 | (ug/L) |
| Pyrene | 19.2 | 29.9 | A | | -1.1 | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | 16.7 | 25.6 | A | | -1.1 | 1.89 - 49.84 | (ug/L) |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

LAWR01 LAWRENCE BERKELEY NATIONAL LABORATORY
1 CYCLOTRON DR.

BERKELEY CA 94720

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | 0.52 | 0.635 | A | | -18.1 | 0.44 - 0.83 | 0.20 | H | (Bq/L) |
| Cesium-134 | 72 | 82.9 | A | | -13.1 | 58.03 - 107.77 | 4 | | (Bq/L) |
| Cesium-137 | 69 | 72.7 | A | | -5.1 | 50.89 - 94.51 | 4 | | (Bq/L) |
| Cobalt-57 | 95 | 96.8 | A | | -1.9 | 67.76 - 125.84 | 4 | | (Bq/L) |
| Cobalt-60 | 273 | 270 | A | | 1.1 | 189.00 - 351.00 | 12 | | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 408 | 395 | A | | 3.3 | 276.50 - 513.50 | 19 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | 0.46 | 0.32 | N | | 43.8 | 0.22 - 0.42 | 0.09 | | (Bq/L) |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | 0.47 | 0.428 | A | | 9.8 | 0.30 - 0.56 | 0.10 | H | (Bq/L) |
| Uranium-238 | 0.54 | 0.444 | W | | 21.6 | 0.31 - 0.58 | 0.12 | H | (Bq/L) |
| Zinc-65 | 238 | 220 | A | | 8.2 | 154.00 - 286.00 | 10 | | (Bq/L) |

- Flags:** A = Result acceptable Bias <= 20%
 W = Result acceptable with warning 20% < Bias <= 30%
 N = Result not acceptable Bias > 30%
 L = Uncertainty potentially too low (for infomation purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

LAWR01 LAWRENCE BERKELEY NATIONAL LABORATORY
1 CYCLOTRON DR.
BERKELEY CA 94720

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
W = Result acceptable with warning 2.0 < Z-score <=3.0
N = Result not acceptable Z-score > 3.0
L = Uncertainty potentially too low (for information purposes only)
H = Uncertainty potentially too high (for information purposes only)
QL = Detection Limit
RW = Report Warning
NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

LAWR02 Lawrence Livermore National Laboratory
7000 East Avenue

Livermore CA 94550

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | 73.1 | 82.9 | A | | -11.8 | 58.03 - 107.77 | 1.1 | L | (Bq/L) |
| Cesium-137 | 66.6 | 72.7 | A | | -8.4 | 50.89 - 94.51 | 1.6 | L | (Bq/L) |
| Cobalt-57 | 89.1 | 96.8 | A | | -8.0 | 67.76 - 125.84 | 1.2 | L | (Bq/L) |
| Cobalt-60 | 256.2 | 270 | A | | -5.1 | 189.00 - 351.00 | 1.8 | L | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 372.6 | 395 | A | | -5.7 | 276.50 - 513.50 | 3.1 | L | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | 0.42 | 0.32 | N | | 31.3 | 0.22 - 0.42 | 0.02 | | (Bq/L) |
| Plutonium-239/240 | 0.007 | | | | | | 0.00 | | (Bq/L) |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | NR | 0.428 | | | | 0.30 - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | | 0.31 - 0.58 | | | |
| Zinc-65 | 210.9 | 220 | A | | -4.1 | 154.00 - 286.00 | 4.7 | L | (Bq/L) |

Flags:

A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

LAWR02 Lawrence Livermore National Laboratory
 7000 East Avenue
 Livermore CA 94550

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

BBWI Analytical Laboratories Department
LOCK01 P.O. Box 1625

Idaho Falls ID 83415

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|---------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Arsenic | 0.202 | 0.203 | A | | -0.5 | 0.14 - 0.26 | 0.02 | | (mg/L) |
| Barium | 47.5 | 50.8 | A | | -6.5 | 35.56 - 66.04 | 4.75 | | (mg/L) |
| Beryllium | 0.505 | 0.508 | A | | -0.6 | 0.36 - 0.66 | 0.05 | | (mg/L) |
| Cadmium | 0.293 | 0.305 | A | | -3.9 | 0.21 - 0.40 | 0.02 | | (mg/L) |
| Selenium | 0.200 | 0.203 | A | | -1.5 | 0.14 - 0.26 | 0.02 | | (mg/L) |
| Silver | 0.727 | | | Not Evaluated | | | 0.07 | | (mg/L) |
| Thallium | 0.493 | 0.508 | A | | -3.0 | 0.36 - 0.66 | 0.04 | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | 0.00 | | (mg/L) |
| Uranium-238 | 0.0371 | 0.036 | | | | | | | |
| Vanadium | 0.715 | 0.711 | A | | 0.6 | 0.50 - 0.92 | 0.07 | | (mg/L) |
| Zinc | 4.94 | 5.08 | A | | -2.8 | 3.56 - 6.60 | 0.04 | L | (mg/L) |
| Americium-241 | 0.644 | 0.635 | A | | 1.4 | 0.44 - 0.83 | 0.07 | | (Bq/L) |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | 73.5 | 72.7 | A | | 1.1 | 50.89 - 94.51 | 4.5 | | (Bq/L) |
| Cobalt-57 | 102 | 96.8 | A | | 5.4 | 67.76 - 125.84 | 6.8 | | (Bq/L) |
| Cobalt-60 | 272 | 270 | A | | 0.7 | 189.00 - 351.00 | 16.8 | | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 410. | 395 | A | | 3.8 | 276.50 - 513.50 | 31.2 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | 0.345 | 0.32 | A | | 7.8 | 0.22 - 0.42 | 0.04 | | (Bq/L) |
| Plutonium-239/240 | 1.34E-2 | | | | | | 5.4E- | | (Bq/L) |
| Strontium-90 | 7.83 | 8.19 | A | | -4.4 | 5.73 - 10.65 | 0.40 | | (Bq/L) |
| Uranium-234/233 | 0.458 | 0.428 | A | | 7.0 | 0.30 - 0.56 | 0.09 | | (Bq/L) |
| Uranium-238 | 0.449 | 0.444 | A | | 1.1 | 0.31 - 0.58 | 0.09 | H | (Bq/L) |
| Zinc-65 | 236 | 220 | A | | 7.3 | 154.00 - 286.00 | 7.4 | | (Bq/L) |

Flags:

A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

BBWI Analytical Laboratories Department
LOCK01 P.O. Box 1625

Idaho Falls ID 83415

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | 27 | 30.6 | A | | -0.5 | 6.29 - 55.08 | (ug/L) |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | 16 | 19.5 | A | | -0.6 | 3.13 - 35.93 | (ug/L) |
| Naphthalene | 13 | | 15 | A | -0.4 | QL - 30.44 | (ug/L) |
| 2,4,6-Trichlorophenol | 37 | | | | | | (ug/L) |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | 12 | 20.6 | A | | -1.3 | 0.98 - 40.08 | (ug/L) |
| 2,4-Dinitrotoluene | 18 | 34.7 | A | | -2.0 | 9.43 - 60.01 | (ug/L) |
| 2,4-Dinitrophenol | NR | 9.2 | | FN | | QL - 26.18 | |
| Diethylphthalate | 15 | 20.5 | A | | -0.8 | QL - 42.24 | (ug/L) |
| Anthracene | 14 | | 23 | A | -1.1 | QL - 50.05 | (ug/L) |
| Di-n-butylphthalate | 21 | | 30 | A | -0.9 | 0.55 - 58.30 | (ug/L) |
| Fluoranthene | 27 | 39.5 | A | | -1.2 | 6.34 - 73.79 | (ug/L) |
| Pyrene | 22 | 29.9 | A | | -0.8 | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | 14 | 25.6 | A | | -1.5 | 1.89 - 49.84 | (ug/L) |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

LOCK03 RADIATION MEASUREMENTS LABORATORY/AEDL
INEEL

Idaho Falls ID 83415

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | 0.62 | 0.635 | A | | -2.4 | 0.44 - 0.83 | 0.03 | | (Bq/L) |
| Cesium-134 | 77 | 82.9 | A | | -7.1 | 58.03 - 107.77 | 6 | | (Bq/L) |
| Cesium-137 | 70 | 72.7 | A | | -3.7 | 50.89 - 94.51 | 5 | | (Bq/L) |
| Cobalt-57 | 93 | 96.8 | A | | -3.9 | 67.76 - 125.84 | 7 | | (Bq/L) |
| Cobalt-60 | 270 | 270 | A | | 0.0 | 189.00 - 351.00 | 19 | | (Bq/L) |
| Iron-55 | 88 | 97 | A | | -9.3 | 67.90 - 126.10 | 5 | | (Bq/L) |
| Manganese-54 | 393 | 395 | A | | -0.5 | 276.50 - 513.50 | 30 | | (Bq/L) |
| Nickel-63 | 128 | 157 | A | | -18.5 | 109.90 - 204.10 | 7 | | (Bq/L) |
| Plutonium-238 | 0.32 | 0.32 | A | | 0.0 | 0.22 - 0.42 | 0.03 | | (Bq/L) |
| Plutonium-239/240 | 0.014 | | | | | | 0.00 | | (Bq/L) |
| Strontium-90 | 8.3 | 8.19 | A | | 1.3 | 5.73 - 10.65 | 0.5 | | (Bq/L) |
| Uranium-234/233 | 0.45 | 0.428 | A | | 5.1 | 0.30 - 0.56 | 0.04 | | (Bq/L) |
| Uranium-235 | 0.02 | | | | | | 0.01 | | (Bq/L) |
| Uranium-238 | 0.47 | 0.444 | A | | 5.9 | 0.31 - 0.58 | 0.04 | | (Bq/L) |
| Zinc-65 | 223 | 220 | A | | 1.4 | 154.00 - 286.00 | 17 | | (Bq/L) |

Flags: A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

LOCK03 RADIATION MEASUREMENTS LABORATORY/AEDL
INEEL

Idaho Falls ID 83415

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

Center for Environmental Chemistry SPA "Typhoon"
LPTO99 Lenin av. 82

Obninsk Kaluga re 24902

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Arsenic | 0.22 | 0.203 | A | | 8.4 | 0.14 - 0.26 | 0.03 | | (mg/L) |
| Barium | 44.5 | 50.8 | A | | -12.4 | 35.56 - 66.04 | 0.5 | L | (mg/L) |
| Beryllium | 0.4 | 0.508 | W | | -21.3 | 0.36 - 0.66 | 0.01 | L | (mg/L) |
| Cadmium | 0.29 | 0.305 | A | | -4.9 | 0.21 - 0.40 | 0.00 | L | (mg/L) |
| Selenium | 0.2 | 0.203 | A | | -1.5 | 0.14 - 0.26 | 0.05 | H | (mg/L) |
| Silver | 0.056 | | | Not Evaluated | | | 0.00 | | (mg/L) |
| Thallium | 0.54 | 0.508 | A | | 6.3 | 0.36 - 0.66 | 0.01 | L | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.74 | 0.711 | A | | 4.1 | 0.50 - 0.92 | 0.03 | | (mg/L) |
| Zinc | 5.07 | 5.08 | A | | -0.2 | 3.56 - 6.60 | 0.01 | L | (mg/L) |
| Americium-241 | NR | 0.635 | | | 0.44 | - 0.83 | | | |
| Cesium-134 | NR | 82.9 | | | 58.03 | - 107.77 | | | |
| Cesium-137 | NR | 72.7 | | | 50.89 | - 94.51 | | | |
| Cobalt-57 | NR | 96.8 | | | 67.76 | - 125.84 | | | |
| Cobalt-60 | NR | 270 | | | 189.00 | - 351.00 | | | |
| Iron-55 | NR | 97 | | | 67.90 | - 126.10 | | | |
| Manganese-54 | NR | 395 | | | 276.50 | - 513.50 | | | |
| Nickel-63 | NR | 157 | | | 109.90 | - 204.10 | | | |
| Plutonium-238 | NR | 0.32 | | | 0.22 | - 0.42 | | | |
| Strontium-90 | NR | 8.19 | | | 5.73 | - 10.65 | | | |
| Uranium-234/233 | NR | 0.428 | | | 0.30 | - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | 0.31 | - 0.58 | | | |
| Zinc-65 | NR | 220 | | | 154.00 | - 286.00 | | | |

Flags: A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

Center for Environmental Chemistry SPA "Typhoon"
LPTO99 Lenin av. 82

Obninsk Kaluga re 24902

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | 37.5 | 23.9 | | | | | (ug/L) |
| 2-Chlorophenol | 60.4 | 30.2 | A | | 1.5 | QL - 92.64 | (ug/L) |
| 1,3-Dichlorobenzene | 37.5 | 30.6 | A | | 0.8 | 6.29 - 55.08 | (ug/L) |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | 50.5 | 27.6 | A | | 1.3 | QL - 78.93 | (ug/L) |
| 1,2,4-Trichlorobenzene | 29.1 | 19.5 | A | | 1.8 | 3.13 - 35.93 | (ug/L) |
| Naphthalene | 19.4 | 15 | A | | 0.9 | QL - 30.44 | (ug/L) |
| 2,6-Dichlorophenol | 46.6 | 39.1 | | | | | (ug/L) |
| 2,6-Dinitrotoluene | 30.4 | 20.6 | A | | 1.5 | 0.98 - 40.08 | (ug/L) |
| 2,4-Dinitrotoluene | 65.8 | 34.7 | N | | 3.7 | 9.43 - 60.01 | (ug/L) |
| 2,4-Dinitrophenol | NR | 9.2 | | FN | | QL - 26.18 | |
| Diethylphthalate | 32.7 | 20.5 | A | | 1.7 | QL - 42.24 | (ug/L) |
| Anthracene | 41.0 | 23 | A | | 2.0 | QL - 50.05 | (ug/L) |
| Di-n-butylphthalate | 46.8 | 30 | A | | 1.8 | 0.55 - 58.30 | (ug/L) |
| Fluoranthene | 59.5 | 39.5 | A | | 1.7 | 6.34 - 73.79 | (ug/L) |
| Pyrene | 37.7 | 29.9 | A | | 0.7 | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | 36.6 | 25.6 | A | | 1.3 | 1.89 - 49.84 | (ug/L) |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

USEC, Inc.
MART01 Lab COC, Bldg. X-710, Rm 222

Piketon OH 45661

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|--------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Arsenic | .213 | 0.203 | A | | 4.9 | 0.14 - 0.26 | | | (mg/L) |
| Barium | 52.1 | 50.8 | A | | 2.6 | 35.56 - 66.04 | | | (mg/L) |
| Beryllium | .496 | 0.508 | A | | -2.4 | 0.36 - 0.66 | | | (mg/L) |
| Cadmium | .315 | 0.305 | A | | 3.3 | 0.21 - 0.40 | | | (mg/L) |
| Selenium | .219 | 0.203 | A | | 7.9 | 0.14 - 0.26 | | | (mg/L) |
| Silver | .0968 | | | Not Evaluated | | | | | (mg/L) |
| Thallium | .518 | 0.508 | A | | 2.0 | 0.36 - 0.66 | | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | .723 | 0.711 | A | | 1.7 | 0.50 - 0.92 | | | (mg/L) |
| Zinc | 5.300 | 5.08 | A | | 4.3 | 3.56 - 6.60 | | | (mg/L) |
| Americium-241 | 0.74 | 0.635 | A | | 16.5 | 0.44 - 0.83 | 0.06 | | (Bq/L) |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | 70.8 | 72.7 | A | | -2.6 | 50.89 - 94.51 | 1.8 | L | (Bq/L) |
| Cobalt-57 | 96.1 | 96.8 | A | | -0.7 | 67.76 - 125.84 | 1.5 | L | (Bq/L) |
| Cobalt-60 | 272 | 270 | A | | 0.7 | 189.00 - 351.00 | 3.0 | L | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 401 | 395 | A | | 1.5 | 276.50 - 513.50 | 29 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | 0.33 | 0.32 | A | | 3.1 | 0.22 - 0.42 | 0.03 | | (Bq/L) |
| Plutonium-239/240 | 0.014 | | | | | | 0.01 | | (Bq/L) |
| Strontium-90 | 8.8 | 8.19 | A | | 7.4 | 5.73 - 10.65 | 0.53 | | (Bq/L) |
| Uranium-234/233 | 0.50 | 0.428 | A | | 16.8 | 0.30 - 0.56 | 0.03 | | (Bq/L) |
| Uranium-238 | 0.47 | 0.444 | A | | 5.9 | 0.31 - 0.58 | 0.03 | | (Bq/L) |
| Zinc-65 | 236 | 220 | A | | 7.3 | 154.00 - 286.00 | 9 | | (Bq/L) |

Flags: A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

USEC, Inc.
MART01 Lab COC, Bldg. X-710, Rm 222
 Piketon OH 45661

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | 38 | 30.6 | A | | 0.9 | 6.29 - 55.08 | (ug/L) |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | 24 | 19.5 | A | | 0.8 | 3.13 - 35.93 | (ug/L) |
| Naphthalene | 19 | | 15 | A | 0.8 | QL - 30.44 | (ug/L) |
| 2,4,6-Trichlorophenol | 73 | | | | | | (ug/L) |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | 23 | 20.6 | A | | 0.4 | 0.98 - 40.08 | (ug/L) |
| 2,4-Dinitrotoluene | 36 | 34.7 | A | | 0.2 | 9.43 - 60.01 | (ug/L) |
| 2,4-Dinitrophenol | NR | 9.2 | | FN | | QL - 26.18 | |
| Diethylphthalate | 27 | 20.5 | A | | 0.9 | QL - 42.24 | (ug/L) |
| Anthracene | 26 | | 23 | A | 0.3 | QL - 50.05 | (ug/L) |
| Di-n-butylphthalate | 52 | | 30 | W | 2.3 | 0.55 - 58.30 | (ug/L) |
| Fluoranthene | 44 | 39.5 | A | | 0.3 | 6.34 - 73.79 | (ug/L) |
| Pyrene | 46 | 29.9 | A | | 1.5 | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | 31 | 25.6 | A | | 0.6 | 1.89 - 49.84 | (ug/L) |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

MART02 United States Enrichment Corporation
5600 Hobbs Road

Paducah KY 42001

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | 47.3 | 50.8 | A | | -6.9 | 35.56 - 66.04 | 4.73 | | (mg/L) |
| Beryllium | 0.459 | 0.508 | A | | -9.6 | 0.36 - 0.66 | 0.04 | | (mg/L) |
| Cadmium | 0.293 | 0.305 | A | | -3.9 | 0.21 - 0.40 | 0.02 | | (mg/L) |
| Selenium | 0.202 | 0.203 | A | | -0.5 | 0.14 - 0.26 | 0.02 | | (mg/L) |
| Silver | 0.090 | | | Not Evaluated | | | 0.00 | | (mg/L) |
| Thallium | 0.392 | 0.508 | W | | -22.8 | 0.36 - 0.66 | 0.03 | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | 0.70 | 0.036 | | | | | | | (mg/L) |
| Vanadium | 0.675 | 0.711 | A | | -5.1 | 0.50 - 0.92 | 0.06 | | (mg/L) |
| Zinc | 5.14 | 5.08 | A | | 1.2 | 3.56 - 6.60 | 0.51 | | (mg/L) |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | 71.4 | 72.7 | A | | -1.8 | 50.89 - 94.51 | 8.5 | | (Bq/L) |
| Cobalt-57 | NR | 96.8 | | | | 67.76 - 125.84 | | | |
| Cobalt-60 | 280.0 | 270 | A | | 3.7 | 189.00 - 351.00 | 28.1 | | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | NR | 395 | | | | 276.50 - 513.50 | | | |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | NR | 0.32 | | | | 0.22 - 0.42 | | | |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | NR | 0.428 | | | | 0.30 - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | | 0.31 - 0.58 | | | |
| Zinc-65 | NR | 220 | | | | 154.00 - 286.00 | | | |

Flags: A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

MART02 United States Enrichment Corporation
5600 Hobbs Road

Paducah KY 42001

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | 30.7 | 30.6 | A | | 0.0 | 6.29 - 55.08 | (ug/L) |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | 18.5 | 19.5 | A | | -0.2 | 3.13 - 35.93 | (ug/L) |
| Naphthalene | 14.1 | 15 | A | | -0.2 | QL - 30.44 | (ug/L) |
| 2,4,6-Trichlorophenol | 48.3 | | | | | | (ug/L) |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | 22.3 | 20.6 | A | | 0.3 | 0.98 - 40.08 | (ug/L) |
| 2,4-Dinitrotoluene | 35.5 | 34.7 | A | | 0.1 | 9.43 - 60.01 | (ug/L) |
| 2,4-Dinitrophenol | 6.75 | 9.2 | A | | -0.4 | QL - 26.18 | (ug/L) |
| Diethylphthalate | 10.0 | 20.5 | A | | -1.4 | QL - 42.24 | (ug/L) |
| Anthracene | 22.5 | 23 | A | | -0.1 | QL - 50.05 | (ug/L) |
| Di-n-butylphthalate | 21.9 | 30 | A | | -0.8 | 0.55 - 58.30 | (ug/L) |
| Fluoranthene | 37.2 | 39.5 | A | | -0.3 | 6.34 - 73.79 | (ug/L) |
| Pyrene | 29.8 | 29.9 | A | | -0.1 | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | 26.4 | 25.6 | A | | 0.1 | 1.89 - 49.84 | (ug/L) |

Flags:

- A = Result acceptable Z-score <=2.0)
- W = Result acceptable with warning 2.0 < Z-score <=3.0)
- N = Result not acceptable Z-score > 3.0)
- L = Uncertainty potentially too low (for information purposes only)
- H = Uncertainty potentially too high (for information purposes only)
- QL = Detection Limit
- RW = Report Warning
- NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

MART03 Radioactive Material Analysis Laboratory
ORNL

Oak Ridge TN 37831

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|----------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Arsenic | 2.44E-01 | 0.203 | W | | 20.2 | 0.14 - 0.26 | 2.66 | | (mg/L) |
| Barium | 5.23E+01 | 50.8 | A | | 3.0 | 35.56 - 66.04 | 5.23 | | (mg/L) |
| Beryllium | 4.59E-01 | 0.508 | A | | -9.6 | 0.36 - 0.66 | 4.59 | | (mg/L) |
| Cadmium | 2.95E-01 | 0.305 | A | | -3.3 | 0.21 - 0.40 | 4.80 | | (mg/L) |
| Selenium | 2.10E-01 | 0.203 | A | | 3.4 | 0.14 - 0.26 | 2.14 | | (mg/L) |
| Silver | 4.06E-01 | | | Not Evaluated | | | 1.36 | | (mg/L) |
| Thallium | 4.53E-01 | 0.508 | A | | -10.8 | 0.36 - 0.66 | 4.53 | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 6.37E-01 | 0.711 | A | | -10.4 | 0.50 - 0.92 | 6.37 | | (mg/L) |
| Zinc | 4.55E+00 | 5.08 | A | | -10.4 | 3.56 - 6.60 | 5.32 | | (mg/L) |
| Americium-241 | 0.66 | 0.635 | A | | 3.9 | 0.44 - 0.83 | 0.05 | | (Bq/L) |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | 70 | 72.7 | A | | -3.7 | 50.89 - 94.51 | 1 | L | (Bq/L) |
| Cobalt-57 | 94 | 96.8 | A | | -2.9 | 67.76 - 125.84 | 1 | L | (Bq/L) |
| Cobalt-60 | 270 | 270 | A | | 0.0 | 189.00 - 351.00 | 10 | | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 400 | 395 | A | | 1.3 | 276.50 - 513.50 | 10 | L | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | 0.33 | 0.32 | A | | 3.1 | 0.22 - 0.42 | 0.03 | | (Bq/L) |
| Plutonium-239/240 | 0.045 | | | | | | 0.01 | | (Bq/L) |
| Strontium-90 | 8.3 | 8.19 | A | | 1.3 | 5.73 - 10.65 | 0.9 | | (Bq/L) |
| Uranium-234/233 | 0.47 | 0.428 | A | | 9.8 | 0.30 - 0.56 | 0.04 | | (Bq/L) |
| Uranium-238 | 0.47 | 0.444 | A | | 5.9 | 0.31 - 0.58 | 0.04 | | (Bq/L) |
| Zinc-65 | 230 | 220 | A | | 4.5 | 154.00 - 286.00 | 10 | | (Bq/L) |

Flags: A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

MART03 Radioactive Material Analysis Laboratory
ORNL

Oak Ridge TN 37831

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

MDPH-Radiation Control Program
MDPH01 MERL-Room 002

Jamaica Plain MA 02130

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | 70.6 | 72.7 | A | | -2.9 | 50.89 - 94.51 | 2.0 | L | (Bq/L) |
| Cobalt-57 | 95.3 | 96.8 | A | | -1.5 | 67.76 - 125.84 | 2.4 | L | (Bq/L) |
| Cobalt-60 | 280 | 270 | A | | 3.7 | 189.00 - 351.00 | 4.6 | L | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 408 | 395 | A | | 3.3 | 276.50 - 513.50 | 8.6 | L | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | NR | 0.32 | | | | 0.22 - 0.42 | | | |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | NR | 0.428 | | | | 0.30 - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | | 0.31 - 0.58 | | | |
| Zinc-65 | 236 | 220 | A | | 7.3 | 154.00 - 286.00 | 5.0 | L | (Bq/L) |

Flags: A = Result acceptable Bias <= 20%
 W = Result acceptable with warning 20% < Bias <= 30%
 N = Result not acceptable Bias > 30%
 L = Uncertainty potentially too low (for infomation purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

MDPH-Radiation Control Program
MDPH01
 MERL-Room 002

Jamaica Plain MA 02130

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

Mountain States Analytical, Inc.
MOUNO 1645 West 2200 South

Salt Lake City UT 84119

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|---------------|-----------------|------------------|-----------|-----------|--------|
| Arsenic | 0.20 | 0.203 | A | | -1.5 | 0.14 - 0.26 | 0.02 | | (mg/L) |
| Barium | 49.4 | 50.8 | A | | -2.8 | 35.56 - 66.04 | 1.0 | L | (mg/L) |
| Beryllium | 0.498 | 0.508 | A | | -2.0 | 0.36 - 0.66 | 0.01 | L | (mg/L) |
| Cadmium | 0.293 | 0.305 | A | | -3.9 | 0.21 - 0.40 | 0.00 | L | (mg/L) |
| Selenium | 0.21 | 0.203 | A | | 3.4 | 0.14 - 0.26 | 0.03 | | (mg/L) |
| Silver | 1.24 | | | Not Evaluated | | | 0.02 | | (mg/L) |
| Thallium | 0.47 | 0.508 | A | | -7.5 | 0.36 - 0.66 | 0.02 | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.709 | 0.711 | A | | -0.3 | 0.50 - 0.92 | 0.01 | L | (mg/L) |
| Zinc | 5.01 | 5.08 | A | | -1.4 | 3.56 - 6.60 | 0.05 | L | (mg/L) |
| Americium-241 | NR | 0.635 | | | 0.44 - 0.83 | | | | |
| Cesium-134 | NR | 82.9 | | | 58.03 - 107.77 | | | | |
| Cesium-137 | NR | 72.7 | | | 50.89 - 94.51 | | | | |
| Cobalt-57 | NR | 96.8 | | | 67.76 - 125.84 | | | | |
| Cobalt-60 | NR | 270 | | | 189.00 - 351.00 | | | | |
| Iron-55 | NR | 97 | | | 67.90 - 126.10 | | | | |
| Manganese-54 | NR | 395 | | | 276.50 - 513.50 | | | | |
| Nickel-63 | NR | 157 | | | 109.90 - 204.10 | | | | |
| Plutonium-238 | NR | 0.32 | | | 0.22 - 0.42 | | | | |
| Strontium-90 | NR | 8.19 | | | 5.73 - 10.65 | | | | |
| Uranium-234/233 | NR | 0.428 | | | 0.30 - 0.56 | | | | |
| Uranium-238 | NR | 0.444 | | | 0.31 - 0.58 | | | | |
| Zinc-65 | NR | 220 | | | 154.00 - 286.00 | | | | |

Flags: A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

Mountain States Analytical, Inc.
MOUNO 1645 West 2200 South
 Salt Lake City UT 84119

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | 28 | 30.6 | A | | -0.3 | 6.29 - 55.08 | (ug/L) |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | 17 | 19.5 | A | | -0.5 | 3.13 - 35.93 | (ug/L) |
| Naphthalene | 14 | | 15 | A | -0.2 | QL - 30.44 | (ug/L) |
| 2,4,6-Trichlorophenol | 41 | | | | | | (ug/L) |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | 19 | 20.6 | A | | -0.2 | 0.98 - 40.08 | (ug/L) |
| 2,4-Dinitrotoluene | 30 | 34.7 | A | | -0.6 | 9.43 - 60.01 | (ug/L) |
| 2,4-Dinitrophenol | 8 | 9.2 | A | | -0.2 | QL - 26.18 | (ug/L) |
| Diethylphthalate | 12 | 20.5 | A | | -1.2 | QL - 42.24 | (ug/L) |
| Anthracene | 21 | | 23 | A | -0.3 | QL - 50.05 | (ug/L) |
| Di-n-butylphthalate | 21 | | 30 | A | -0.9 | 0.55 - 58.30 | (ug/L) |
| Fluoranthene | 37 | 39.5 | A | | -0.3 | 6.34 - 73.79 | (ug/L) |
| Pyrene | 30 | 29.9 | A | | 0.0 | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | 24 | 25.6 | A | | -0.2 | 1.89 - 49.84 | (ug/L) |

Flags: A = Result acceptable Z-score <=2.0)
 W = Result acceptable with warning 2.0 < Z-score <=3.0)
 N = Result not acceptable Z-score > 3.0)
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

NARL01 National Air and Radiation Environmental Laboratory
540 S. Morris Ave.

Montgomery AL 36115

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|---------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | 0.257 | 0.203 | W | | 26.6 | 0.14 - 0.26 | | | (mg/L) |
| Barium | 56.03 | 50.8 | A | | 10.3 | 35.56 - 66.04 | | | (mg/L) |
| Beryllium | 0.548 | 0.508 | A | | 7.9 | 0.36 - 0.66 | | | (mg/L) |
| Cadmium | 0.358 | 0.305 | A | | 17.4 | 0.21 - 0.40 | | | (mg/L) |
| Selenium | 0.236 | 0.203 | A | | 16.3 | 0.14 - 0.26 | | | (mg/L) |
| Thallium | 0.554 | 0.508 | A | | 9.1 | 0.36 - 0.66 | | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.903 | 0.711 | W | | 27.0 | 0.50 - 0.92 | | | (mg/L) |
| Zinc | 6.579 | 5.08 | W | | 29.5 | 3.56 - 6.60 | | | (mg/L) |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | 70.67 | 72.7 | A | | -2.8 | 50.89 - 94.51 | 0.59 | L | (Bq/L) |
| Cobalt-57 | 90.65 | 96.8 | A | | -6.4 | 67.76 - 125.84 | 0.42 | L | (Bq/L) |
| Cobalt-60 | 266.2 | 270 | A | | -1.4 | 189.00 - 351.00 | 0.73 | L | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 399.6 | 395 | A | | 1.2 | 276.50 - 513.50 | 1.3 | L | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | 0.04 | 0.32 | N | | -87.5 | 0.22 - 0.42 | 0.01 | H | (Bq/L) |
| Plutonium-239/240 | -0.0005 | | | | | | 0.00 | | (Bq/L) |
| Strontium-90 | 7.39 | 8.19 | A | | -9.8 | 5.73 - 10.65 | 0.53 | | (Bq/L) |
| Uranium-234/233 | 0.464 | 0.428 | A | | 8.4 | 0.30 - 0.56 | 0.04 | | (Bq/L) |
| Uranium-238 | 0.468 | 0.444 | A | | 5.4 | 0.31 - 0.58 | 0.04 | | (Bq/L) |
| Zinc-65 | 227.2 | 220 | A | | 3.3 | 154.00 - 286.00 | 1.8 | L | (Bq/L) |

Flags: A = Result acceptable Bias <= 20%
 W = Result acceptable with warning 20% < Bias <= 30%
 N = Result not acceptable Bias > 30%
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

NARL01
National Air and Radiation Environmental Laboratory
540 S. Morris Ave.

Montgomery AL 36115

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
W = Result acceptable with warning 2.0 < Z-score <=3.0
N = Result not acceptable Z-score > 3.0
L = Uncertainty potentially too low (for information purposes only)
H = Uncertainty potentially too high (for information purposes only)
QL = Detection Limit
RW = Report Warning
NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

NESI01 BWXT Services-Nuclear Environmental Laboratory Servi
Lynchburg Technology Center

Lynchburg VA 24506

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Arsenic | .209 | 0.203 | A | | 3.0 | 0.14 - 0.26 | | | (mg/L) |
| Barium | 51.3 | 50.8 | A | | 1.0 | 35.56 - 66.04 | | | (mg/L) |
| Beryllium | .498 | 0.508 | A | | -2.0 | 0.36 - 0.66 | | | (mg/L) |
| Cadmium | .288 | 0.305 | A | | -5.6 | 0.21 - 0.40 | | | (mg/L) |
| Selenium | .195 | 0.203 | A | | -3.9 | 0.14 - 0.26 | | | (mg/L) |
| Silver | .0809 | | | Not Evaluated | | | | | (mg/L) |
| Thallium | .499 | 0.508 | A | | -1.8 | 0.36 - 0.66 | | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | .694 | 0.711 | A | | -2.4 | 0.50 - 0.92 | | | (mg/L) |
| Zinc | 5.05 | 5.08 | A | | -0.6 | 3.56 - 6.60 | | | (mg/L) |
| Americium-241 | 0.614 | 0.635 | A | | -3.3 | 0.44 - 0.83 | 0.06 | | (Bq/L) |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | 72.2 | 72.7 | A | | -0.7 | 50.89 - 94.51 | 1.2 | L | (Bq/L) |
| Cobalt-57 | 99.9 | 96.8 | A | | 3.2 | 67.76 - 125.84 | 1.5 | L | (Bq/L) |
| Cobalt-60 | 294 | 270 | A | | 8.9 | 189.00 - 351.00 | 10 | | (Bq/L) |
| Iron-55 | 160 | 97 | N | | 64.9 | 67.90 - 126.10 | 13 | | (Bq/L) |
| Manganese-54 | 426 | 395 | A | | 7.8 | 276.50 - 513.50 | 15 | | (Bq/L) |
| Nickel-63 | 124 | 157 | W | | -21.0 | 109.90 - 204.10 | 11 | | (Bq/L) |
| Plutonium-238 | 0.372 | 0.32 | A | | 16.3 | 0.22 - 0.42 | 0.02 | | (Bq/L) |
| Strontium-90 | 6.18 | 8.19 | W | | -24.5 | 5.73 - 10.65 | 0.15 | L | (Bq/L) |
| Uranium-234/233 | 0.615 | 0.428 | N | | 43.7 | 0.30 - 0.56 | 0.03 | | (Bq/L) |
| Uranium-238 | 0.581 | 0.444 | N | | 30.9 | 0.31 - 0.58 | 0.03 | | (Bq/L) |
| Zinc-65 | 259 | 220 | A | | 17.7 | 154.00 - 286.00 | 9 | | (Bq/L) |

Flags: A = Result acceptable Bias <= 20%
 W = Result acceptable with warning 20% < Bias <= 30%
 N = Result not acceptable Bias > 30%
 L = Uncertainty potentially too low (for infomation purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

BWXT Services-Nuclear Environmental Laboratory Service
NESI01 Lynchburg Technology Center
 Lynchburg VA 24506

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | 16 | 23.9 | | | | | (ug/L) |
| 2-Chlorophenol | 29 | 30.2 | A | | -0.1 | QL - 92.64 | (ug/L) |
| 1,3-Dichlorobenzene | 17 | 30.6 | A | | -1.7 | 6.29 - 55.08 | (ug/L) |
| 2,4-Dimethylphenol | 11 | 15.9 | A | | -0.5 | QL - 43.53 | (ug/L) |
| 2,4-Dichlorophenol | 24 | 27.6 | A | | -0.2 | QL - 78.93 | (ug/L) |
| 1,2,4-Trichlorobenzene | 13 | 19.5 | A | | -1.2 | 3.13 - 35.93 | (ug/L) |
| Naphthalene | 11 | 15 | A | | -0.8 | QL - 30.44 | (ug/L) |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | 14 | 20.6 | A | | -1.0 | 0.98 - 40.08 | (ug/L) |
| 2,4-Dinitrotoluene | 25 | 34.7 | A | | -1.2 | 9.43 - 60.01 | (ug/L) |
| 2,4-Dinitrophenol | 5 | 9.2 | A | | -0.7 | QL - 26.18 | (ug/L) |
| Diethylphthalate | 18 | 20.5 | A | | -0.3 | QL - 42.24 | (ug/L) |
| Phenanthrene | 18 | | N | FP | | | (ug/L) |
| Anthracene | NR | 23 | | FN | | QL - 50.05 | |
| Di-n-butylphthalate | 28 | 30 | A | | -0.1 | 0.55 - 58.30 | (ug/L) |
| Fluoranthene | 30 | 39.5 | A | | -0.9 | 6.34 - 73.79 | (ug/L) |
| Pyrene | 24 | 29.9 | A | | -0.6 | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | 18 | 25.6 | A | | -1.0 | 1.89 - 49.84 | (ug/L) |

Flags: A = Result acceptable Z-score <=2.0)
 W = Result acceptable with warning 2.0 < Z-score <=3.0)
 N = Result not acceptable Z-score > 3.0)
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

NRC Region I
NRCQ01
 475 Allendale Road

King of Prussia PA 19406

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | 80.7 | 82.9 | A | | -2.7 | 58.03 - 107.77 | 4.4 | | (Bq/L) |
| Cesium-137 | 65.9 | 72.7 | A | | -9.4 | 50.89 - 94.51 | 3.7 | | (Bq/L) |
| Cobalt-57 | 94.7 | 96.8 | A | | -2.2 | 67.76 - 125.84 | 5.6 | | (Bq/L) |
| Cobalt-60 | 259 | 270 | A | | -4.1 | 189.00 - 351.00 | 15 | | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 381 | 395 | A | | -3.5 | 276.50 - 513.50 | 18 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | NR | 0.32 | | | | 0.22 - 0.42 | | | |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | NR | 0.428 | | | | 0.30 - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | | 0.31 - 0.58 | | | |
| Zinc-65 | 229 | 220 | A | | 4.1 | 154.00 - 286.00 | 11 | | (Bq/L) |

Flags: A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for infomation purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

NRC Region I
NRCQ01
 475 Allendale Road

King of Prussia PA 19406

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

NRCQ02 NRC Region III Laboratory
801 Warrenville Road

Lisle IL 60532

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | 73.30 | 72.7 | A | | 0.8 | 50.89 - 94.51 | 2.60 | | (Bq/L) |
| Cobalt-57 | 101.2 | 96.8 | A | | 4.5 | 67.76 - 125.84 | 3.40 | | (Bq/L) |
| Cobalt-60 | 288.40 | 270 | A | | 6.8 | 189.00 - 351.00 | 9.50 | | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 434.54 | 395 | A | | 10.0 | 276.50 - 513.50 | 14.3 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | NR | 0.32 | | | | 0.22 - 0.42 | | | |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | NR | 0.428 | | | | 0.30 - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | | 0.31 - 0.58 | | | |
| Zinc-65 | 242.43 | 220 | A | | 10.2 | 154.00 - 286.00 | 8.17 | | (Bq/L) |

Flags:

- A = Result acceptable Bias <= 20%
- W = Result acceptable with warning 20% < Bias <= 30%
- N = Result not acceptable Bias > 30%
- L = Uncertainty potentially too low (for infomation purposes only)
- H = Uncertainty potentially too high (for information purposes only)
- QL = Detection Limit
- RW = Report Warning
- NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

NRCQ02 NRC Region III Laboratory
801 Warrenville Road

Lisle IL 60532

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

NRLL99 National Radiation Laboratory
108 Victoria St

Christchurch Christchu 8000

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | 74 | 72.7 | A | | 1.8 | 50.89 - 94.51 | 3 | | (Bq/L) |
| Cobalt-57 | 92 | 96.8 | A | | -5.0 | 67.76 - 125.84 | 3 | | (Bq/L) |
| Cobalt-60 | 279 | 270 | A | | 3.3 | 189.00 - 351.00 | 6 | L | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 425 | 395 | A | | 7.6 | 276.50 - 513.50 | 15 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | NR | 0.32 | | | | 0.22 - 0.42 | | | |
| Strontium-90 | 6.8 | 8.19 | A | | -17.0 | 5.73 - 10.65 | 0.5 | | (Bq/L) |
| Uranium-234/233 | NR | 0.428 | | | | 0.30 - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | | 0.31 - 0.58 | | | |
| Zinc-65 | 254 | 220 | A | | 15.5 | 154.00 - 286.00 | 5 | L | (Bq/L) |

- Flags:** A = Result acceptable Bias <= 20%
 W = Result acceptable with warning 20% < Bias <= 30%
 N = Result not acceptable Bias > 30%
 L = Uncertainty potentially too low (for infomation purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

NRLL99 National Radiation Laboratory
108 Victoria St
Christchurch Christchu 8000

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0)
 W = Result acceptable with warning 2.0 < Z-score <=3.0)
 N = Result not acceptable Z-score > 3.0)
 L = Uncertainty potentially too low (for infomation purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

O'Brien & Gere Laboratories, Inc.

OBGL01

| | East Syracuse | NY | 13221 | | | | | | |
|-------------------|---------------|-----------|-------|---------------|----------|------------------|-----------|-----------|--------|
| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
| Arsenic | 0.199 | 0.203 | A | | -2.0 | 0.14 - 0.26 | | | (mg/L) |
| Barium | 49.1 | 50.8 | A | | -3.3 | 35.56 - 66.04 | | | (mg/L) |
| Beryllium | 0.503 | 0.508 | A | | -1.0 | 0.36 - 0.66 | | | (mg/L) |
| Cadmium | 0.295 | 0.305 | A | | -3.3 | 0.21 - 0.40 | | | (mg/L) |
| Copper | 0.202 | | A | | | | 0.00 | | (mg/L) |
| Selenium | 0.192 | 0.203 | A | | -5.4 | 0.14 - 0.26 | | | (mg/L) |
| Silver | 1.10 | | | Not Evaluated | | | | | (mg/L) |
| Thallium | 0.495 | 0.508 | A | | -2.6 | 0.36 - 0.66 | | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.717 | 0.711 | A | | 0.8 | 0.50 - 0.92 | | | (mg/L) |
| Zinc | 5.03 | 5.08 | A | | -1.0 | 3.56 - 6.60 | | | (mg/L) |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | 7.42E+01 | 82.9 | A | | -10.5 | 58.03 - 107.77 | 7.77 | | (Bq/L) |
| Cesium-137 | 7.38E+01 | 72.7 | A | | 1.5 | 50.89 - 94.51 | 1.39 | | (Bq/L) |
| Cobalt-57 | 9.49E+01 | 96.8 | A | | -2.0 | 67.76 - 125.84 | 1.34 | | (Bq/L) |
| Cobalt-60 | 2.71E+02 | 270 | A | | 0.4 | 189.00 - 351.00 | 3.52 | | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 4.19E+02 | 395 | A | | 6.1 | 276.50 - 513.50 | 7.73 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | 2.67E-01 | 0.32 | A | | -16.6 | 0.22 - 0.42 | 4.88 | | (Bq/L) |
| Plutonium-239/240 | 6.55E-04 | | | | | | 2.88 | | (Bq/L) |
| Potassium-40 | 4.03E+00 | | | | | | 5.37 | | (Bq/L) |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | 4.26E-01 | 0.428 | A | | -0.5 | 0.30 - 0.56 | 8.40 | | (Bq/L) |
| Uranium-238 | 4.29E-01 | 0.444 | A | | -3.4 | 0.31 - 0.58 | 8.33 | | (Bq/L) |
| Zinc-65 | 2.37E+02 | 220 | A | | 7.7 | 154.00 - 286.00 | 4.10 | | (Bq/L) |

- Flags:** A = Result acceptable Bias <= 20%
 W = Result acceptable with warning 20% < Bias <= 30%
 N = Result not acceptable Bias > 30%
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

O'Brien & Gere Laboratories, Inc.

OBGL01

East Syracuse NY 13221

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | 37 | 30.6 | A | | 0.8 | 6.29 - 55.08 | (ug/L) |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | 25 | 19.5 | A | | 1.0 | 3.13 - 35.93 | (ug/L) |
| Naphthalene | 20 | 15 | A | | 1.0 | QL - 30.44 | (ug/L) |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | 29 | 20.6 | A | | 1.3 | 0.98 - 40.08 | (ug/L) |
| 2,4-Dinitrotoluene | 50 | 34.7 | A | | 1.8 | 9.43 - 60.01 | (ug/L) |
| 2,4-Dinitrophenol | NR | 9.2 | | FN | | QL - 26.18 | |
| Diethylphthalate | 27 | 20.5 | A | | 0.9 | QL - 42.24 | (ug/L) |
| Anthracene | 28 | 23 | A | | 0.5 | QL - 50.05 | (ug/L) |
| Di-n-butylphthalate | 39 | 30 | A | | 1.0 | 0.55 - 58.30 | (ug/L) |
| Fluoranthene | 49 | 39.5 | A | | 0.8 | 6.34 - 73.79 | (ug/L) |
| Pyrene | 35 | 29.9 | A | | 0.5 | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | 31 | 25.6 | A | | 0.6 | 1.89 - 49.84 | (ug/L) |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

ORIS01
ORISE/ESSAP
PO Box 117

Oak Ridge TN 37831

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | 0.607 | 0.635 | A | | -4.4 | 0.44 - 0.83 | 0.06 | | (Bq/L) |
| Cesium-134 | 80.65 | 82.9 | A | | -2.7 | 58.03 - 107.77 | 4.43 | | (Bq/L) |
| Cesium-137 | 73.15 | 72.7 | A | | 0.6 | 50.89 - 94.51 | 3.48 | | (Bq/L) |
| Cobalt-57 | 100.2 | 96.8 | A | | 3.5 | 67.76 - 125.84 | 4.2 | | (Bq/L) |
| Cobalt-60 | 284.6 | 270 | A | | 5.4 | 189.00 - 351.00 | 4.4 | L | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 430.4 | 395 | A | | 9.0 | 276.50 - 513.50 | 23.6 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | 0.345 | 0.32 | A | | 7.8 | 0.22 - 0.42 | 0.06 | | (Bq/L) |
| Plutonium-239/240 | 0.014 | | | | | | 0.01 | | (Bq/L) |
| Strontium-90 | 7.47 | 8.19 | A | | -8.8 | 5.73 - 10.65 | 0.74 | | (Bq/L) |
| Uranium-234/233 | 0.457 | 0.428 | A | | 6.8 | 0.30 - 0.56 | 0.06 | | (Bq/L) |
| Uranium-238 | 0.447 | 0.444 | A | | 0.7 | 0.31 - 0.58 | 0.06 | | (Bq/L) |
| Zinc-65 | 247.8 | 220 | A | | 12.6 | 154.00 - 286.00 | 7.0 | L | (Bq/L) |

Flags: A = Result acceptable Bias <= 20%
W = Result acceptable with warning 20% < Bias <= 30%
N = Result not acceptable Bias > 30%
L = Uncertainty potentially too low (for information purposes only)
H = Uncertainty potentially too high (for information purposes only)
QL = Detection Limit
RW = Report Warning
NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

ORIS01
 ORISE/ESSAP
 PO Box 117
 Oak Ridge TN 37831

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

ORNL03 ENVIR.SCI.DIV/OAK RIDGE NATIONAL LABORATORY
BLD 1505, MS 6036

OAK RIDGE TN 37831

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | 71.6 | 82.9 | A | | -13.6 | 58.03 - 107.77 | 1.6 | L | (Bq/L) |
| Cesium-137 | 66.8 | 72.7 | A | | -8.1 | 50.89 - 94.51 | 1.7 | L | (Bq/L) |
| Cobalt-57 | 91.6 | 96.8 | A | | -5.4 | 67.76 - 125.84 | 1.6 | L | (Bq/L) |
| Cobalt-60 | 262.3 | 270 | A | | -2.9 | 189.00 - 351.00 | 2.3 | L | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 388.3 | 395 | A | | -1.7 | 276.50 - 513.50 | 7.2 | L | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | NR | 0.32 | | | | 0.22 - 0.42 | | | |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | NR | 0.428 | | | | 0.30 - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | | 0.31 - 0.58 | | | |
| Zinc-65 | 228.6 | 220 | A | | 3.9 | 154.00 - 286.00 | 4.7 | L | (Bq/L) |

Flags: A = Result acceptable Bias <= 20%
W = Result acceptable with warning 20% < Bias <= 30%
N = Result not acceptable Bias > 30%
L = Uncertainty potentially too low (for information purposes only)
H = Uncertainty potentially too high (for information purposes only)
QL = Detection Limit
RW = Report Warning
NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

ENVIR.SCI.DIV/OAK RIDGE NATIONAL LABORATORY
ORNL03 BLD 1505, MS 6036

OAK RIDGE TN 37831

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

Outreach Technologies, Inc.
OTLI01
 311 N. Aspen

Broken Arrow OK 74012

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|---------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | 0.222 | 0.203 | A | | 9.4 | 0.14 - 0.26 | | | (mg/L) |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | 0.502 | 0.508 | A | | -1.2 | 0.36 - 0.66 | | | (mg/L) |
| Cadmium | 0.282 | 0.305 | A | | -7.5 | 0.21 - 0.40 | | | (mg/L) |
| Chromium | < 0.009 | | A | | | | | | (mg/L) |
| Cobalt | <0.002 | | | | | | | | (mg/L) |
| Iron | 0.011 | | | | | | | | (mg/L) |
| Lead | <0.005 | | A | | | | | | (mg/L) |
| Magnesium | 17.4 | | | | | | | | (mg/L) |
| Selenium | 0.205 | 0.203 | A | | 1.0 | 0.14 - 0.26 | | | (mg/L) |
| Thallium | 0.536 | 0.508 | A | | 5.5 | 0.36 - 0.66 | | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.759 | 0.711 | A | | 6.8 | 0.50 - 0.92 | | | (mg/L) |
| Zinc | 5.07 | 5.08 | A | | -0.2 | 3.56 - 6.60 | | | (mg/L) |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | 68.2 | 82.9 | A | | -17.7 | 58.03 - 107.77 | 3.89 | | (Bq/L) |
| Cesium-137 | 65.2 | 72.7 | A | | -10.3 | 50.89 - 94.51 | 4.78 | | (Bq/L) |
| Cobalt-57 | 78.2 | 96.8 | A | | -19.2 | 67.76 - 125.84 | 10.2 | | (Bq/L) |
| Cobalt-60 | 265 | 270 | A | | -1.9 | 189.00 - 351.00 | 9.62 | | (Bq/L) |
| Iron-55 | 100 | 97 | A | | 3.1 | 67.90 - 126.10 | 2.33 | L | (Bq/L) |
| Manganese-54 | 373 | 395 | A | | -5.6 | 276.50 - 513.50 | 22.6 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | 0.672 | 0.32 | N | | 110.0 | 0.22 - 0.42 | 0.09 | | (Bq/L) |
| Plutonium-239/240 | 0.197 | | | | | | .053 | | (Bq/L) |
| Strontium-90 | 18.2 | 8.19 | N | | 122.2 | 5.73 - 10.65 | 1.13 | | (Bq/L) |
| Uranium-234/233 | 0.506 | 0.428 | A | | 18.2 | 0.30 - 0.56 | 0.09 | | (Bq/L) |
| Uranium-238 | 0.468 | 0.444 | A | | 5.4 | 0.31 - 0.58 | 0.09 | | (Bq/L) |
| Zinc-65 | 214 | 220 | A | | -2.7 | 154.00 - 286.00 | 15.8 | | (Bq/L) |

- Flags:**
- A = Result acceptable Bias <= 20%
 - W = Result acceptable with warning 20% < Bias <= 30%
 - N = Result not acceptable Bias > 30%
 - L = Uncertainty potentially too low (for information purposes only)
 - H = Uncertainty potentially too high (for information purposes only)
 - QL = Detection Limit
 - RW = Report Warning
 - NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

Outreach Technologies, Inc.
OTLI01
 311 N. Aspen

Broken Arrow OK 74012

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | 31.2 | 30.6 | A | | 0.1 | 6.29 - 55.08 | (ug/L) |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | 19.2 | 19.5 | A | | -0.1 | 3.13 - 35.93 | (ug/L) |
| Naphthalene | 14.4 | 15 | A | | -0.1 | QL - 30.44 | (ug/L) |
| 2,4,6-Trichlorophenol | 41.9 | | | | | | (ug/L) |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | 19.7 | 20.6 | A | | -0.1 | 0.98 - 40.08 | (ug/L) |
| 2,4-Dinitrotoluene | 33.9 | 34.7 | A | | -0.1 | 9.43 - 60.01 | (ug/L) |
| 2,4-Dinitrophenol | NR | 9.2 | | FN | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | FN | | QL - 42.24 | |
| Anthracene | 36.6 | 23 | A | | 1.5 | QL - 50.05 | (ug/L) |
| Di-n-butylphthalate | 17.8 | 30 | A | | -1.2 | 0.55 - 58.30 | (ug/L) |
| Fluoranthene | 56.8 | 39.5 | A | | 1.5 | 6.34 - 73.79 | (ug/L) |
| Pyrene | 46.7 | 29.9 | A | | 1.6 | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | 48.3 | 25.6 | W | | 2.8 | 1.89 - 49.84 | (ug/L) |

Flags: A = Result acceptable Z-score <=2.0)
 W = Result acceptable with warning 2.0 < Z-score <=3.0)
 N = Result not acceptable Z-score > 3.0)
 L = Uncertainty potentially too low (for infomation purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

Severn Trent Laboratories St. Louis
QUAN01 13715 Rider Trail North

Earth City MO 63045

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|--------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Arsenic | 0.213 | 0.203 | A | | 4.9 | 0.14 - 0.26 | | | (mg/L) |
| Barium | 55.1 | 50.8 | A | | 8.5 | 35.56 - 66.04 | | | (mg/L) |
| Beryllium | 0.546 | 0.508 | A | | 7.5 | 0.36 - 0.66 | | | (mg/L) |
| Cadmium | 0.303 | 0.305 | A | | -0.7 | 0.21 - 0.40 | | | (mg/L) |
| Selenium | 0.198 | 0.203 | A | | -2.5 | 0.14 - 0.26 | | | (mg/L) |
| Silver | 2.61 | | | Not Evaluated | | | | | (mg/L) |
| Thallium | 0.509 | 0.508 | A | | 0.2 | 0.36 - 0.66 | | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.737 | 0.711 | A | | 3.7 | 0.50 - 0.92 | | | (mg/L) |
| Zinc | 5.05 | 5.08 | A | | -0.6 | 3.56 - 6.60 | | | (mg/L) |
| Americium-241 | 0.625 | 0.635 | A | | -1.6 | 0.44 - 0.83 | 0.14 | H | (Bq/L) |
| Cesium-134 | 67.2 | 82.9 | A | | -18.9 | 58.03 - 107.77 | 7.9 | | (Bq/L) |
| Cesium-137 | 71.0 | 72.7 | A | | -2.3 | 50.89 - 94.51 | 8.2 | | (Bq/L) |
| Cobalt-57 | 75.7 | 96.8 | W | | -21.8 | 67.76 - 125.84 | 8.1 | | (Bq/L) |
| Cobalt-60 | 265 | 270 | A | | -1.9 | 189.00 - 351.00 | 26 | | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 327 | 395 | A | | -17.2 | 276.50 - 513.50 | 35 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | 0.409 | 0.32 | W | | 27.8 | 0.22 - 0.42 | 0.09 | H | (Bq/L) |
| Plutonium-239/240 | 0.0121 | | | | | | 0.01 | | (Bq/L) |
| Strontium-90 | 8.21 | 8.19 | A | | 0.2 | 5.73 - 10.65 | 1.78 | H | (Bq/L) |
| Uranium-234/233 | 0.409 | 0.428 | A | | -4.4 | 0.30 - 0.56 | 0.08 | H | (Bq/L) |
| Uranium-238 | 0.409 | 0.444 | A | | -7.9 | 0.31 - 0.58 | 0.08 | H | (Bq/L) |
| Zinc-65 | 183 | 220 | A | | -16.8 | 154.00 - 286.00 | 21 | | (Bq/L) |

Flags:

A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

Severn Trent Laboratories St. Louis
QUAN01 13715 Rider Trail North
 Earth City MO 63045

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | 22.5 | 30.6 | A | | -1.0 | 6.29 - 55.08 | (ug/L) |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | 13.4 | 19.5 | A | | -1.1 | 3.13 - 35.93 | (ug/L) |
| Naphthalene | 10.9 | 15 | A | | -0.8 | QL - 30.44 | (ug/L) |
| 2,4,6-Trichlorophenol | 22.0 | | | | | | (ug/L) |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | 18.3 | 20.6 | A | | -0.3 | 0.98 - 40.08 | (ug/L) |
| 2,4-Dinitrotoluene | 33.7 | 34.7 | A | | -0.1 | 9.43 - 60.01 | (ug/L) |
| 2,4-Dinitrophenol | 5.28 | 9.2 | A | | -0.7 | QL - 26.18 | (ug/L) |
| Diethylphthalate | 18.5 | 20.5 | A | | -0.3 | QL - 42.24 | (ug/L) |
| Anthracene | 19.6 | 23 | A | | -0.5 | QL - 50.05 | (ug/L) |
| Di-n-butylphthalate | 25.0 | 30 | A | | -0.5 | 0.55 - 58.30 | (ug/L) |
| Fluoranthene | 33.7 | 39.5 | A | | -0.6 | 6.34 - 73.79 | (ug/L) |
| Pyrene | 22.6 | 29.9 | A | | -0.8 | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | 22.5 | 25.6 | A | | -0.4 | 1.89 - 49.84 | (ug/L) |

Flags: A = Result acceptable Z-score <=2.0)
 W = Result acceptable with warning 2.0 < Z-score <=3.0)
 N = Result not acceptable Z-score > 3.0)
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

STL Knoxville
QUAN02 5815 Middlebrook Pike

Knoxville TN 37921

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Arsenic | 0.204 | 0.203 | A | | 0.5 | 0.14 - 0.26 | | | (mg/L) |
| Barium | 48.9 | 50.8 | A | | -3.7 | 35.56 - 66.04 | | | (mg/L) |
| Beryllium | 0.518 | 0.508 | A | | 2.0 | 0.36 - 0.66 | | | (mg/L) |
| Cadmium | 0.307 | 0.305 | A | | 0.7 | 0.21 - 0.40 | | | (mg/L) |
| Selenium | 0.200 | 0.203 | A | | -1.5 | 0.14 - 0.26 | | | (mg/L) |
| Silver | 0.0529 | | | Not Evaluated | | | | | (mg/L) |
| Thallium | 0.506 | 0.508 | A | | -0.4 | 0.36 - 0.66 | | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.731 | 0.711 | A | | 2.8 | 0.50 - 0.92 | | | (mg/L) |
| Zinc | 5.1 | 5.08 | A | | 0.4 | 3.56 - 6.60 | | | (mg/L) |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | NR | 72.7 | | | | 50.89 - 94.51 | | | |
| Cobalt-57 | NR | 96.8 | | | | 67.76 - 125.84 | | | |
| Cobalt-60 | NR | 270 | | | | 189.00 - 351.00 | | | |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | NR | 395 | | | | 276.50 - 513.50 | | | |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | NR | 0.32 | | | | 0.22 - 0.42 | | | |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | NR | 0.428 | | | | 0.30 - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | | 0.31 - 0.58 | | | |
| Zinc-65 | NR | 220 | | | | 154.00 - 286.00 | | | |

Flags: A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

STL Knoxville
QUAN02 5815 Middlebrook Pike

Knoxville TN 37921

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | 32.2 | 30.6 | A | | 0.2 | 6.29 - 55.08 | (ug/L) |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | 21.1 | 19.5 | A | | 0.3 | 3.13 - 35.93 | (ug/L) |
| Naphthalene | 15.3 | 15 | A | | 0.1 | QL - 30.44 | (ug/L) |
| 2,4,6-Trichlorophenol | 39.4 | | | | | | (ug/L) |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | 21.4 | 20.6 | A | | 0.1 | 0.98 - 40.08 | (ug/L) |
| 2,4-Dinitrotoluene | 36.9 | 34.7 | A | | 0.3 | 9.43 - 60.01 | (ug/L) |
| 2,4-Dinitrophenol | NR | 9.2 | | FN | | QL - 26.18 | |
| Diethylphthalate | 19.8 | 20.5 | A | | -0.1 | QL - 42.24 | (ug/L) |
| Anthracene | 19.8 | 23 | A | | -0.4 | QL - 50.05 | (ug/L) |
| Di-n-butylphthalate | 28.4 | 30 | A | | -0.1 | 0.55 - 58.30 | (ug/L) |
| Fluoranthene | 37.0 | 39.5 | A | | -0.3 | 6.34 - 73.79 | (ug/L) |
| Pyrene | 26.8 | 29.9 | A | | -0.3 | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | 21.6 | 25.6 | A | | -0.5 | 1.89 - 49.84 | (ug/L) |

Flags: A = Result acceptable Z-score <=2.0)
 W = Result acceptable with warning 2.0 < Z-score <=3.0)
 N = Result not acceptable Z-score > 3.0)
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

SEVERN TRENT LABORATORIES - RICHLAND
QUAN03 2800 GEORGE WASHINGTON WAY
 RICHLAND WA 99352

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | 0.66 | 0.635 | A | | 3.9 | 0.44 - 0.83 | 0.05 | | (Bq/L) |
| Cesium-134 | 75 | 82.9 | A | | -9.5 | 58.03 - 107.77 | 4.6 | | (Bq/L) |
| Cesium-137 | 62 | 72.7 | A | | -14.7 | 50.89 - 94.51 | 3.8 | | (Bq/L) |
| Cobalt-57 | 90.2 | 96.8 | A | | -6.8 | 67.76 - 125.84 | 8.6 | | (Bq/L) |
| Cobalt-60 | 260 | 270 | A | | -3.7 | 189.00 - 351.00 | 13.5 | | (Bq/L) |
| Iron-55 | 82.4 | 97 | A | | -15.1 | 67.90 - 126.10 | 4.0 | | (Bq/L) |
| Manganese-54 | 390 | 395 | A | | -1.3 | 276.50 - 513.50 | 20 | | (Bq/L) |
| Nickel-63 | 223 | 157 | N | | 42.0 | 109.90 - 204.10 | 8.2 | | (Bq/L) |
| Plutonium-238 | 0.31 | 0.32 | A | | -3.1 | 0.22 - 0.42 | 0.03 | | (Bq/L) |
| Plutonium-239/240 | 0.008 | | | | | | 0.00 | | (Bq/L) |
| Strontium-90 | 7.87 | 8.19 | A | | -3.9 | 5.73 - 10.65 | 1.08 | | (Bq/L) |
| Uranium-234/233 | 0.45 | 0.428 | A | | 5.1 | 0.30 - 0.56 | 0.04 | | (Bq/L) |
| Uranium-235 | 0.018 | | | | | | 0.00 | | (Bq/L) |
| Uranium-238 | 0.47 | 0.444 | A | | 5.9 | 0.31 - 0.58 | 0.04 | | (Bq/L) |
| Zinc-65 | 240 | 220 | A | | 9.1 | 154.00 - 286.00 | 14.1 | | (Bq/L) |

Flags:

A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

QUAN03 SEVERN TRENT LABORATORIES - RICHLAND
2800 GEORGE WASHINGTON WAY
RICHLAND WA 99352

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

Environmental Chemical Corp.
RECC01 6954 Cornell Rd. Suite 300

Cincinnati OH 45242

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Arsenic | 0.193 | 0.203 | A | | -4.9 | 0.14 - 0.26 | | | (mg/L) |
| Barium | 49.4 | 50.8 | A | | -2.8 | 35.56 - 66.04 | | | (mg/L) |
| Beryllium | 0.458 | 0.508 | A | | -9.8 | 0.36 - 0.66 | | | (mg/L) |
| Cadmium | 0.264 | 0.305 | A | | -13.4 | 0.21 - 0.40 | | | (mg/L) |
| Copper | 0.0036 | | A | | | | | | (mg/L) |
| Selenium | 0.187 | 0.203 | A | Not Evaluated | -7.9 | 0.14 - 0.26 | | | (mg/L) |
| Silver | 0.471 | | | | | | | | (mg/L) |
| Thallium | 0.458 | 0.508 | A | | -9.8 | 0.36 - 0.66 | | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.659 | 0.711 | A | | -7.3 | 0.50 - 0.92 | | | (mg/L) |
| Zinc | 4.60 | 5.08 | A | | -9.4 | 3.56 - 6.60 | | | (mg/L) |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | NR | 72.7 | | | | 50.89 - 94.51 | | | |
| Cobalt-57 | NR | 96.8 | | | | 67.76 - 125.84 | | | |
| Cobalt-60 | NR | 270 | | | | 189.00 - 351.00 | | | |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | NR | 395 | | | | 276.50 - 513.50 | | | |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | NR | 0.32 | | | | 0.22 - 0.42 | | | |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/238 | NR | 0.428 | | | | 0.30 - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | | 0.31 - 0.58 | | | |
| Zinc-65 | NR | 220 | | | | 154.00 - 286.00 | | | |

Flags: A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

Environmental Chemical Corp.
RECC01 6954 Cornell Rd. Suite 300

Cincinnati OH 45242

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|---------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | 24.9 | 30.6 | A | | -0.7 | 6.29 - 55.08 | (ug/L) |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | 17.0 | 19.5 | A | | -0.5 | 3.13 - 35.93 | (ug/L) |
| Naphthalene | 13.1 | 15 | A | | -0.4 | QL - 30.44 | (ug/L) |
| 2,4,6-Trichlorophenol | 36.5 | | | | | | (ug/L) |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | 19.5 | 20.6 | A | | -0.2 | 0.98 - 40.08 | (ug/L) |
| 2,4-Dinitrotoluene | 34.1 | 34.7 | A | | -0.1 | 9.43 - 60.01 | (ug/L) |
| 2,4-Dinitrophenol | 5.40 | 9.2 | A | | -0.7 | QL - 26.18 | (ug/L) |
| Diethylphthalate | 23.7 | 20.5 | A | | 0.4 | QL - 42.24 | (ug/L) |
| Anthracene | 18.8 | 23 | A | | -0.6 | QL - 50.05 | (ug/L) |
| Di-n-butylphthalate | NR | 30 | | FN | | 0.55 - 58.30 | |
| Fluoranthene | 40.1 | 39.5 | A | | 0.0 | 6.34 - 73.79 | (ug/L) |
| Pyrene | 32.5 | 29.9 | A | | 0.2 | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | 25.8 | 25.6 | A | | 0.0 | 1.89 - 49.84 | (ug/L) |
| Bis(2-ethylhexyl)phthalat | 145 | | W | FP | | | (ug/L) |
| Di-n-octylphthalate | 34.2 | | W | FP | | | (ug/L) |

Flags: A = Result acceptable Z-score <=2.0)

W = Result acceptable with warning 2.0 < Z-score <=3.0)

N = Result not acceptable Z-score > 3.0)

L = Uncertainty potentially too low (for infomation purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

RFETS SSOC Radiological Labs
ROCK01 10808 Hwy 93 Unit B

Golden CO 80403

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Arsenic | .21 | 0.203 | A | | 3.4 | 0.14 - 0.26 | | | (mg/L) |
| Barium | 47.55 | 50.8 | A | | -6.4 | 35.56 - 66.04 | | | (mg/L) |
| Beryllium | .49 | 0.508 | A | | -3.5 | 0.36 - 0.66 | | | (mg/L) |
| Cadmium | .27 | 0.305 | A | | -11.5 | 0.21 - 0.40 | | | (mg/L) |
| Selenium | .19 | 0.203 | A | | -6.4 | 0.14 - 0.26 | | | (mg/L) |
| Silver | 1.49 | | | Not Evaluated | | | | | (mg/L) |
| Thallium | .53 | 0.508 | A | | 4.3 | 0.36 - 0.66 | | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | .67 | 0.711 | A | | -5.8 | 0.50 - 0.92 | | | (mg/L) |
| Zinc | 4.92 | 5.08 | A | | -3.2 | 3.56 - 6.60 | | | (mg/L) |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | NR | 72.7 | | | | 50.89 - 94.51 | | | |
| Cobalt-57 | NR | 96.8 | | | | 67.76 - 125.84 | | | |
| Cobalt-60 | NR | 270 | | | | 189.00 - 351.00 | | | |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | NR | 395 | | | | 276.50 - 513.50 | | | |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | NR | 0.32 | | | | 0.22 - 0.42 | | | |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | NR | 0.428 | | | | 0.30 - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | | 0.31 - 0.58 | | | |
| Zinc-65 | NR | 220 | | | | 154.00 - 286.00 | | | |

Flags: A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

RFETS SSOC Radiological Labs
ROCK01 10808 Hwy 93 Unit B

Golden CO 80403

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

RSIR99 Instituto de Radioprotecao e Dosimetria
Avenida Salvador Allende S/no.

Rio de Janeiro Rio de Ja 22780

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|---------|-----------|------|---------------|-----------------|------------------|-----------|-----------|--------|
| Arsenic | 0.195 | 0.203 | A | | -3.9 | 0.14 - 0.26 | 0.01 | | (mg/L) |
| Barium | 48.793 | 50.8 | A | | -4.0 | 35.56 - 66.04 | 2.50 | | (mg/L) |
| Beryllium | 0.460 | 0.508 | A | | -9.4 | 0.36 - 0.66 | 0.02 | | (mg/L) |
| Cadmium | 0.292 | 0.305 | A | | -4.3 | 0.21 - 0.40 | 0.01 | | (mg/L) |
| Selenium | 0.192 | 0.203 | A | | -5.4 | 0.14 - 0.26 | 0.01 | | (mg/L) |
| Silver | 0.053 | | | Not Evaluated | | | 0.00 | | (mg/L) |
| Thallium | 0.489 | 0.508 | A | | -3.7 | 0.36 - 0.66 | 0.02 | | (mg/L) |
| Uranium-Total | 0.034 | 0.036 | | | | | 0.00 | | (mg/L) |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.683 | 0.711 | A | | -3.9 | 0.50 - 0.92 | 0.03 | | (mg/L) |
| Zinc | 4.548 | 5.08 | A | | -10.5 | 3.56 - 6.60 | 0.24 | | (mg/L) |
| Americium-241 | NR | 0.635 | | | 0.44 - 0.83 | | | | |
| Cesium-134 | NR | 82.9 | | | 58.03 - 107.77 | | | | |
| Cesium-137 | 68.400 | 72.7 | A | | -5.9 | 50.89 - 94.51 | 3.65 | | (Bq/L) |
| Cobalt-57 | 94.043 | 96.8 | A | | -2.8 | 67.76 - 125.84 | 4.87 | | (Bq/L) |
| Cobalt-60 | 272.400 | 270 | A | | 0.9 | 189.00 - 351.00 | 13.7 | | (Bq/L) |
| Iron-55 | NR | 97 | | | 67.90 - 126.10 | | | | |
| Manganese-54 | 390.400 | 395 | A | | -1.2 | 276.50 - 513.50 | 20.0 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | 109.90 - 204.10 | | | | |
| Plutonium-238 | 0.399 | 0.32 | W | | 24.7 | 0.22 - 0.42 | 0.04 | | (Bq/L) |
| Strontium-90 | NR | 8.19 | | | 5.73 - 10.65 | | | | |
| Uranium-234/233 | NR | 0.428 | | | 0.30 - 0.56 | | | | |
| Uranium-238 | 0.477 | 0.444 | A | | 7.4 | 0.31 - 0.58 | 0.03 | | (Bq/L) |
| Zinc-65 | 225.633 | 220 | A | | 2.6 | 154.00 - 286.00 | 11.8 | | (Bq/L) |

Flags: A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

RSIR99 Instituto de Radioprotecao e Dosimetria
Avenida Salvador Allende S/no.

Rio de Janeiro Rio de Ja 22780

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags:

- A = Result acceptable Z-score <=2.0)
- W = Result acceptable with warning 2.0 < Z-score <=3.0)
- N = Result not acceptable Z-score > 3.0)
- L = Uncertainty potentially too low (for information purposes only)
- H = Uncertainty potentially too high (for information purposes only)
- QL = Detection Limit
- RW = Report Warning
- NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

WSRC/SAVANNAH RIVER TECHNOLOGY CENTER/A
SAVA01 773-41A, room 146

AIKEN SC 29802

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|----------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | .2053 | 0.203 | A | | 1.1 | 0.14 - 0.26 | 0.00 | | (mg/L) |
| Barium | 51 | 50.8 | A | | 0.4 | 35.56 - 66.04 | 5 | | (mg/L) |
| Beryllium | 0.50 | 0.508 | A | | -1.6 | 0.36 - 0.66 | 0.05 | | (mg/L) |
| Cadmium | 0.29 | 0.305 | A | | -4.9 | 0.21 - 0.40 | 0.03 | | (mg/L) |
| Selenium | .2343 | 0.203 | A | | 15.4 | 0.14 - 0.26 | 0.00 | | (mg/L) |
| Thallium | 0.61 | 0.508 | W | | 20.1 | 0.36 - 0.66 | 0.06 | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.73 | 0.711 | A | | 2.7 | 0.50 - 0.92 | 0.07 | | (mg/L) |
| Zinc | 5.1 | 5.08 | A | | 0.4 | 3.56 - 6.60 | 0.5 | | (mg/L) |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | 7.02E+01 | 82.9 | A | | -15.3 | 58.03 - 107.77 | 1.18 | L | (Bq/L) |
| Cesium-137 | 6.76E+01 | 72.7 | A | | -7.0 | 50.89 - 94.51 | 1.80 | L | (Bq/L) |
| Cobalt-57 | 9.08E+01 | 96.8 | A | | -6.2 | 67.76 - 125.84 | 2.23 | L | (Bq/L) |
| Cobalt-60 | 2.64E+02 | 270 | A | | -2.2 | 189.00 - 351.00 | 4.44 | L | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 3.72E+02 | 395 | A | | -5.8 | 276.50 - 513.50 | 5.68 | L | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | NR | 0.32 | | | | 0.22 - 0.42 | | | |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | NR | 0.428 | | | | 0.30 - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | | 0.31 - 0.58 | | | |
| Zinc-65 | 2.20E+02 | 220 | A | | 0.0 | 154.00 - 286.00 | 4.99 | L | (Bq/L) |

Flags:

A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for infomation purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

WSRC/SAVANNAH RIVER TECHNOLOGY CENTER/A
SAVA01 773-41A, room 146

AIKEN SC 29802

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

SCAL01 Sanford Cohen and Associates, Inc.
 1000 Monticello Court

Montgomery AL 36117

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | 0.637 | 0.635 | A | | 0.3 | 0.44 - 0.83 | 0.08 | | (Bq/L) |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | 68.9 | 72.7 | A | | -5.2 | 50.89 - 94.51 | 4.7 | | (Bq/L) |
| Cobalt-57 | 97.4 | 96.8 | A | | 0.6 | 67.76 - 125.84 | 6.6 | | (Bq/L) |
| Cobalt-60 | 282.4 | 270 | A | | 4.6 | 189.00 - 351.00 | 18.4 | | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 419.7 | 395 | A | | 6.3 | 276.50 - 513.50 | 27.5 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | 0.345 | 0.32 | A | | 7.8 | 0.22 - 0.42 | 0.04 | | (Bq/L) |
| Plutonium-239/240 | 0.013 | | | | | | 0.00 | | (Bq/L) |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | 0.440 | 0.428 | A | | 2.8 | 0.30 - 0.56 | 0.05 | | (Bq/L) |
| Uranium-238 | 0.453 | 0.444 | A | | 2.0 | 0.31 - 0.58 | 0.05 | | (Bq/L) |
| Zinc-65 | 246.5 | 220 | A | | 12.0 | 154.00 - 286.00 | 16.1 | | (Bq/L) |

- Flags:**
- A = Result acceptable Bias $\leq 20\%$
 - W = Result acceptable with warning 20% < Bias $\leq 30\%$
 - N = Result not acceptable Bias $> 30\%$
 - L = Uncertainty potentially too low (for information purposes only)
 - H = Uncertainty potentially too high (for information purposes only)
 - QL = Detection Limit
 - RW = Report Warning
 - NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

SCAL01
Sanford Cohen and Associates, Inc.
1000 Monticello Court
Montgomery AL 36117

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
W = Result acceptable with warning 2.0 < Z-score <=3.0
N = Result not acceptable Z-score > 3.0
L = Uncertainty potentially too low (for information purposes only)
H = Uncertainty potentially too high (for information purposes only)
QL = Detection Limit
RW = Report Warning
NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

SNLP01 SNL Environmental Restoration Chemistry Laboratory
Sandia National Laboratories

Albuquerque NM 87185

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|----------|-----------|------|---------------|----------|------------------|-----------|-----------|-------------|
| Antimony | <0.0003 | | | | | | | | (mg/L) |
| Arsenic | 0.200 | 0.203 | A | | -1.5 | 0.14 - 0.26 | | | (mg/L) |
| Barium | 48.4 | 50.8 | A | | -4.7 | 35.56 - 66.04 | | | (mg/L) |
| Beryllium | 0.498 | 0.508 | A | | -2.0 | 0.36 - 0.66 | | | (mg/L) |
| Cadmium | 0.304 | 0.305 | A | | -0.3 | 0.21 - 0.40 | | | (mg/L) |
| Chromium | .00184 | | A | | | | | | (mg/L) |
| Copper | 0.00222 | | A | | | | | | (mg/L) |
| Lead | 0.000459 | | A | | | | | | (mg/L) |
| Nickel | 0.00283 | | A | | | | | | (mg/L) |
| Selenium | 0.182 | 0.203 | A | | -10.3 | 0.14 - 0.26 | | | (mg/L) |
| Silver | 0.0568 | | | Not Evaluated | | | | | (mg/L) |
| Thallium | 0.518 | 0.508 | A | | 2.0 | 0.36 - 0.66 | | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.744 | 0.711 | A | | 4.6 | 0.50 - 0.92 | | | (mg/L) |
| Zinc | 5.38 | 5.08 | A | | 5.9 | 3.56 - 6.60 | | | (mg/L) |
| Americium-241 | NR | 0.635 | | | | | | | 0.44 - 0.83 |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | NR | 72.7 | | | | 50.89 - 94.51 | | | |
| Cobalt-57 | NR | 96.8 | | | | 67.76 - 125.84 | | | |
| Cobalt-60 | NR | 270 | | | | 189.00 - 351.00 | | | |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | NR | 395 | | | | 276.50 - 513.50 | | | |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | NR | 0.32 | | | | 0.22 - 0.42 | | | |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | NR | 0.428 | | | | 0.30 - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | | 0.31 - 0.58 | | | |
| Zinc-65 | NR | 220 | | | | 154.00 - 286.00 | | | |

Flags: A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

SNLP01
 SNL Environmental Restoration Chemistry Laboratory
 Sandia National Laboratories
 Albuquerque NM 87185

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

SOUT01 Southwest Research Institute
6220 Culebra Rd.

San Antonio TX 78228

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|--------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Arsenic | 0.196 | 0.203 | A | | -3.4 | 0.14 - 0.26 | 0.01 | | (mg/L) |
| Barium | 48.6 | 50.8 | A | | -4.3 | 35.56 - 66.04 | 1.2 | L | (mg/L) |
| Beryllium | 0.505 | 0.508 | A | | -0.6 | 0.36 - 0.66 | 0.01 | L | (mg/L) |
| Cadmium | 0.282 | 0.305 | A | | -7.5 | 0.21 - 0.40 | 0.00 | L | (mg/L) |
| Selenium | 0.204 | 0.203 | A | | 0.5 | 0.14 - 0.26 | 0.01 | | (mg/L) |
| Silver | 1.78 | | | Not Evaluated | | | 0.04 | | (mg/L) |
| Thallium | 0.509 | 0.508 | A | | 0.2 | 0.36 - 0.66 | 0.02 | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.680 | 0.711 | A | | -4.4 | 0.50 - 0.92 | 0.01 | L | (mg/L) |
| Zinc | 5.06 | 5.08 | A | | -0.4 | 3.56 - 6.60 | 0.13 | L | (mg/L) |
| Americium-241 | 0.73 | 0.635 | A | | 15.0 | 0.44 - 0.83 | 0.06 | | (Bq/L) |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | 75 | 72.7 | A | | 3.2 | 50.89 - 94.51 | 4 | | (Bq/L) |
| Cobalt-57 | 107 | 96.8 | A | | 10.5 | 67.76 - 125.84 | 2 | L | (Bq/L) |
| Cobalt-60 | 307 | 270 | A | | 13.7 | 189.00 - 351.00 | 48 | | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 433 | 395 | A | | 9.6 | 276.50 - 513.50 | 77 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | 0.49 | 0.32 | N | | 53.1 | 0.22 - 0.42 | 0.06 | | (Bq/L) |
| Plutonium-239/240 | 0.02 | | | | | | 0.01 | | (Bq/L) |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | 0.48 | 0.428 | A | | 12.1 | 0.30 - 0.56 | 0.02 | | (Bq/L) |
| Uranium-238 | 0.48 | 0.444 | A | | 8.1 | 0.31 - 0.58 | 0.02 | | (Bq/L) |
| Zinc-65 | 262 | 220 | A | | 19.1 | 154.00 - 286.00 | 12 | | (Bq/L) |

Flags:

A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

SOUT01 Southwest Research Institute
6220 Culebra Rd.

San Antonio TX 78228

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | 47 | 30.6 | W | | 2.0 | 6.29 - 55.08 | (ug/L) |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | 23 | 19.5 | A | | 0.6 | 3.13 - 35.93 | (ug/L) |
| Naphthalene | 18 | | 15 | A | 0.6 | QL - 30.44 | (ug/L) |
| 2,4,6-Trichlorophenol | 46 | | | | | | (ug/L) |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | 26 | 20.6 | A | | 0.8 | 0.98 - 40.08 | (ug/L) |
| 2,4-Dinitrotoluene | 43 | 34.7 | A | | 1.0 | 9.43 - 60.01 | (ug/L) |
| 2,4-Dinitrophenol | 11 | 9.2 | A | | 0.3 | QL - 26.18 | (ug/L) |
| Diethylphthalate | 23 | 20.5 | A | | 0.3 | QL - 42.24 | (ug/L) |
| Anthracene | 27 | | 23 | A | 0.4 | QL - 50.05 | (ug/L) |
| Di-n-butylphthalate | 34 | | 30 | A | 0.5 | 0.55 - 58.30 | (ug/L) |
| Fluoranthene | 47 | 39.5 | A | | 0.6 | 6.34 - 73.79 | (ug/L) |
| Pyrene | 35 | 29.9 | A | | 0.5 | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | 32 | 25.6 | A | | 0.8 | 1.89 - 49.84 | (ug/L) |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

SOUTHWEST LABORATORY OF OKLAHOMA, INC.
SWOL01 1700 WEST ALBANY

BROKEN ARROW OK 74012

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Arsenic | 199 | 0.203 | N | | 97929.6 | 0.14 - 0.26 | | | (mg/L) |
| Barium | 50100 | 50.8 | N | | 98522.0 | 35.56 - 66.04 | | | (mg/L) |
| Beryllium | 499 | 0.508 | N | | 98128.3 | 0.36 - 0.66 | | | (mg/L) |
| Cadmium | 291 | 0.305 | N | | 95309.8 | 0.21 - 0.40 | | | (mg/L) |
| Selenium | 190 | 0.203 | N | | 93496.1 | 0.14 - 0.26 | | | (mg/L) |
| Silver | 96.9 | | | Not Evaluated | | | | | (mg/L) |
| Thallium | 492 | 0.508 | N | | 96750.4 | 0.36 - 0.66 | | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 701 | 0.711 | N | | 98493.5 | 0.50 - 0.92 | | | (mg/L) |
| Zinc | 4760 | 5.08 | N | | 93600.8 | 3.56 - 6.60 | | | (mg/L) |
| Americium-241 | 0.562 | 0.635 | A | | -11.5 | 0.44 - 0.83 | .038 | | (Bq/L) |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | 69.19 | 72.7 | A | | -4.8 | 50.89 - 94.51 | 3.46 | | (Bq/L) |
| Cobalt-57 | 94.7 | 96.8 | A | | -2.2 | 67.76 - 125.84 | 4.74 | | (Bq/L) |
| Cobalt-60 | 269.7 | 270 | A | | -0.1 | 189.00 - 351.00 | 13.4 | | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 392.2 | 395 | A | | -0.7 | 276.50 - 513.50 | 19.6 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | 0.276 | 0.32 | A | | -13.8 | 0.22 - 0.42 | .03 | | (Bq/L) |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | 0.389 | 0.428 | A | | -9.1 | 0.30 - 0.56 | .029 | | (Bq/L) |
| Uranium-238 | 0.38 | 0.444 | A | | -14.4 | 0.31 - 0.58 | .031 | | (Bq/L) |
| Zinc-65 | 230.5 | 220 | A | | 4.8 | 154.00 - 286.00 | 11.5 | | (Bq/L) |

Flags: A = Result acceptable Bias <= 20%
 W = Result acceptable with warning 20% < Bias <= 30%
 N = Result not acceptable Bias > 30%
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

SOUTHWEST LABORATORY OF OKLAHOMA, INC.
SWOL01 1700 WEST ALBANY

BROKEN ARROW OK 74012

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|---------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | 37.9 | 30.6 | A | | 0.9 | 6.29 - 55.08 | (ug/L) |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | 26.3 | 19.5 | A | | 1.2 | 3.13 - 35.93 | (ug/L) |
| Naphthalene | 20.1 | | 15 | A | 1.0 | QL - 30.44 | (ug/L) |
| 2,4,6-Trichlorophenol | 56.5 | | | | | | (ug/L) |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | 25.7 | 20.6 | A | | 0.8 | 0.98 - 40.08 | (ug/L) |
| 2,4-Dinitrotoluene | 42.6 | 34.7 | A | | 0.9 | 9.43 - 60.01 | (ug/L) |
| 2,4-Dinitrophenol | 14.1 | 9.2 | A | | 0.9 | QL - 26.18 | (ug/L) |
| Diethylphthalate | 26.0 | 20.5 | A | | 0.8 | QL - 42.24 | (ug/L) |
| Anthracene | 32.2 | 23 | A | | 1.0 | QL - 50.05 | (ug/L) |
| Di-n-butylphthalate | 37.2 | 30 | A | | 0.8 | 0.55 - 58.30 | (ug/L) |
| Fluoranthene | 49.9 | 39.5 | A | | 0.9 | 6.34 - 73.79 | (ug/L) |
| Pyrene | 38.8 | 29.9 | A | | 0.8 | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | 36.2 | 25.6 | A | | 1.3 | 1.89 - 49.84 | (ug/L) |
| Bis(2-ethylhexyl)phthalat | 1.10 | | | FP | | | (ug/L) |

Flags: A = Result acceptable Z-score <=2.0)

W = Result acceptable with warning 2.0 < Z-score <=3.0)

N = Result not acceptable Z-score > 3.0)

L = Uncertainty potentially too low (for infomation purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

TELE01 TELEDYNE BROWN ENGINEERING - ENVIRONMENT
 50 VAN BUREN AVE

WESTWOOD NJ 07675

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | 7.3 | 0.635 | N | | 1049.6 | 0.44 - 0.83 | 1.3 | | (Bq/L) |
| Cerium-144 | 81.9 | | | | | | 0.89 | | (Bq/L) |
| Cesium-134 | 75.3 | 82.9 | A | | -9.2 | 58.03 - 107.77 | 0.75 | L | (Bq/L) |
| Cesium-137 | 72.3 | 72.7 | A | | -0.6 | 50.89 - 94.51 | 0.72 | L | (Bq/L) |
| Cobalt-57 | 92.4 | 96.8 | A | | -4.5 | 67.76 - 125.84 | 0.92 | L | (Bq/L) |
| Cobalt-60 | 265 | 270 | A | | -1.9 | 189.00 - 351.00 | 0.26 | L | (Bq/L) |
| Iron-55 | 1300 | 97 | N | | 1240.2 | 67.90 - 126.10 | 0.2 | L | (Bq/L) |
| Manganese-54 | 394 | 395 | A | | -0.3 | 276.50 - 513.50 | 0.39 | L | (Bq/L) |
| Nickel-63 | 1400 | 157 | N | | 791.7 | 109.90 - 204.10 | 0.1 | L | (Bq/L) |
| Plutonium-238 | 3.8 | 0.32 | N | | 1087.5 | 0.22 - 0.42 | 1.1 | H | (Bq/L) |
| Potassium-40 | 10 | | | | | | 01 | | (Bq/L) |
| Strontium-90 | 0.58 | 8.19 | N | | -92.9 | 5.73 - 10.65 | 0.2 | H | (Bq/L) |
| Uranium-234/233 | 5.5 | 0.428 | N | | 1185.0 | 0.30 - 0.56 | 1.3 | H | (Bq/L) |
| Uranium-238 | 5.3 | 0.444 | N | | 1093.7 | 0.31 - 0.58 | 1.3 | H | (Bq/L) |
| Zinc-65 | 235 | 220 | A | | 6.8 | 154.00 - 286.00 | 0.24 | L | (Bq/L) |

Flags:

A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for infomation purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

TELE01 TELEDYNE BROWN ENGINEERING - ENVIRONMENT
 50 VAN BUREN AVE
 WESTWOOD NJ 07675

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0)
 W = Result acceptable with warning 2.0 < Z-score <=3.0)
 N = Result not acceptable Z-score > 3.0)
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

TELE02 Teledyne Midwest Lab
700 Landwehr Road

Northbrook IL 60062

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | 0.63 | 0.635 | A | | -0.8 | 0.44 - 0.83 | 0.14 | H | (Bq/L) |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | 69.6 | 72.7 | A | | -4.3 | 50.89 - 94.51 | 1.4 | L | (Bq/L) |
| Cobalt-57 | 91.4 | 96.8 | A | | -5.6 | 67.76 - 125.84 | 0.9 | L | (Bq/L) |
| Cobalt-60 | 274.3 | 270 | A | | 1.6 | 189.00 - 351.00 | 1.3 | L | (Bq/L) |
| Iron-55 | 90.39 | 97 | A | | -6.8 | 67.90 - 126.10 | 22.9 | H | (Bq/L) |
| Manganese-54 | 397.8 | 395 | A | | 0.7 | 276.50 - 513.50 | 2.3 | L | (Bq/L) |
| Nickel-63 | 102.34 | 157 | N | | -34.8 | 109.90 - 204.10 | 5.13 | | (Bq/L) |
| Plutonium-238 | 0.228 | 0.32 | W | | -28.8 | 0.22 - 0.42 | 0.06 | H | (Bq/L) |
| Strontium-90 | 7.51 | 8.19 | A | | -8.3 | 5.73 - 10.65 | 0.76 | | (Bq/L) |
| Uranium-234/233 | 0.42 | 0.428 | A | | -1.9 | 0.30 - 0.56 | 0.06 | | (Bq/L) |
| Uranium-238 | 0.40 | 0.444 | A | | -9.9 | 0.31 - 0.58 | 0.06 | | (Bq/L) |
| Zinc-65 | 233.0 | 220 | A | | 5.9 | 154.00 - 286.00 | 3.8 | L | (Bq/L) |

- Flags:** A = Result acceptable Bias <= 20%
 W = Result acceptable with warning 20% < Bias <= 30%
 N = Result not acceptable Bias > 30%
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

TELE02
 Teledyne Midwest Lab
 700 Landwehr Road
 Northbrook IL 60062

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

Thermo NUtech
TMAE01 7021 Pan American N.E.

Albuquerque NM 87109

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|---------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | 0.7026 | 0.635 | A | | 10.6 | 0.44 - 0.83 | 0.03 | | (Bq/L) |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | 67.768 | 72.7 | A | | -6.8 | 50.89 - 94.51 | 3.03 | | (Bq/L) |
| Cobalt-57 | 92.164 | 96.8 | A | | -4.8 | 67.76 - 125.84 | 3.69 | | (Bq/L) |
| Cobalt-60 | 266.630 | 270 | A | | -1.2 | 189.00 - 351.00 | 7.92 | L | (Bq/L) |
| Iron-55 | 78.423 | 97 | A | | -19.2 | 67.90 - 126.10 | 3.17 | | (Bq/L) |
| Manganese-54 | 395.138 | 395 | A | | 0.0 | 276.50 - 513.50 | 14.4 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | 0.3265 | 0.32 | A | | 2.0 | 0.22 - 0.42 | 0.02 | | (Bq/L) |
| Plutonium-239/240 | -0.0007 | | | | | | 0.00 | | (Bq/L) |
| Strontium-90 | 7.2705 | 8.19 | A | | -11.2 | 5.73 - 10.65 | 0.16 | L | (Bq/L) |
| Uranium-234/233 | NR | 0.428 | | | | 0.30 - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | | 0.31 - 0.58 | | | |
| Zinc-65 | 234.900 | 220 | A | | 6.8 | 154.00 - 286.00 | 7.03 | L | (Bq/L) |

Flags: A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

Thermo NUtech
TMAE01 7021 Pan American N.E.
 Albuquerque NM 87109

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

THERMO NUTECH
TMAO01 601 SCARBORO RD

OAK RIDGE TN 37830

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | 0.85 | 0.635 | N | | 33.9 | 0.44 - 0.83 | .19 | H | (Bq/L) |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | 70.95 | 72.7 | A | | -2.4 | 50.89 - 94.51 | 7.56 | | (Bq/L) |
| Cobalt-57 | 99.07 | 96.8 | A | | 2.3 | 67.76 - 125.84 | 7.71 | | (Bq/L) |
| Cobalt-60 | 276.54 | 270 | A | | 2.4 | 189.00 - 351.00 | 19.6 | | (Bq/L) |
| Iron-55 | 136.1 | 97 | N | | 40.3 | 67.90 - 126.10 | 58.6 | H | (Bq/L) |
| Manganese-54 | 408.11 | 395 | A | | 3.3 | 276.50 - 513.50 | 4.25 | L | (Bq/L) |
| Nickel-63 | 150.59 | 157 | A | | -4.1 | 109.90 - 204.10 | 5.21 | | (Bq/L) |
| Plutonium-238 | .437 | 0.32 | N | | 36.6 | 0.22 - 0.42 | 0.09 | H | (Bq/L) |
| Plutonium-239/240 | 0.01 | | | | | | 0.00 | | (Bq/L) |
| Strontium-90 | 8.65 | 8.19 | A | | 5.6 | 5.73 - 10.65 | .80 | | (Bq/L) |
| Uranium-234/233 | 0.72 | 0.428 | N | | 68.2 | 0.30 - 0.56 | .123 | | (Bq/L) |
| Uranium-238 | 0.639 | 0.444 | N | | 43.9 | 0.31 - 0.58 | .111 | | (Bq/L) |
| Zinc-65 | 237.03 | 220 | A | | 7.7 | 154.00 - 286.00 | 24.5 | | (Bq/L) |

Flags: A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

THERMO NUTECH
TMAO01 601 SCARBORO RD

OAK RIDGE TN 37830

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

TMAR01 Thermo Retec
2030 Wright Ave
Richmond CA 94804

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | 0.6527 | 0.635 | A | | 2.8 | 0.44 - 0.83 | 0.03 | | (Bq/L) |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | 70.61 | 72.7 | A | | -2.9 | 50.89 - 94.51 | 1.61 | L | (Bq/L) |
| Cobalt-57 | 94.84 | 96.8 | A | | -2.0 | 67.76 - 125.84 | 0.95 | L | (Bq/L) |
| Cobalt-60 | 274.8 | 270 | A | | 1.8 | 189.00 - 351.00 | 2.34 | L | (Bq/L) |
| Iron-55 | 107.4 | 97 | A | | 10.7 | 67.90 - 126.10 | 5.26 | | (Bq/L) |
| Manganese-54 | 404.0 | 395 | A | | 2.3 | 276.50 - 513.50 | 2.96 | L | (Bq/L) |
| Nickel-63 | 143.4 | 157 | A | | -8.7 | 109.90 - 204.10 | 1.88 | L | (Bq/L) |
| Plutonium-238 | 0.3499 | 0.32 | A | | 9.3 | 0.22 - 0.42 | 0.02 | | (Bq/L) |
| Plutonium-239/240 | 0.0078 | | | | | | 0.00 | | (Bq/L) |
| Strontium-90 | 8.221 | 8.19 | A | | 0.4 | 5.73 - 10.65 | 0.30 | | (Bq/L) |
| Uranium-234/233 | 0.4660 | 0.428 | A | | 8.9 | 0.30 - 0.56 | 0.02 | | (Bq/L) |
| Uranium-235 | 0.0257 | | | | | | 0.00 | | (Bq/L) |
| Uranium-238 | 0.4660 | 0.444 | A | | 5.0 | 0.31 - 0.58 | 0.02 | | (Bq/L) |
| Zinc-65 | 237.5 | 220 | A | | 8.0 | 154.00 - 286.00 | 5.12 | L | (Bq/L) |

Flags:

A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

TMAR01 Thermo Retec
2030 Wright Ave
Richmond CA 94804

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

FUSRAP
TNUT01
 8945 LATTY AVE

BERKELEY MO 63134

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | 74.37 | 82.9 | A | | -10.3 | 58.03 - 107.77 | 1.15 | L | (Bq/L) |
| Cesium-137 | 74.15 | 72.7 | A | | 2.0 | 50.89 - 94.51 | 2.21 | L | (Bq/L) |
| Cobalt-57 | 99.49 | 96.8 | A | | 2.8 | 67.76 - 125.84 | 1.87 | L | (Bq/L) |
| Cobalt-60 | 277.50 | 270 | A | | 2.8 | 189.00 - 351.00 | 4.33 | L | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 422.22 | 395 | A | | 6.9 | 276.50 - 513.50 | 10.0 | L | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | NR | 0.32 | | | | 0.22 - 0.42 | | | |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | 0.38 | 0.428 | A | | -11.2 | 0.30 - 0.56 | 0.07 | | (Bq/L) |
| Uranium-238 | 0.46 | 0.444 | A | | 3.6 | 0.31 - 0.58 | 0.08 | | (Bq/L) |
| Zinc-65 | 244.46 | 220 | A | | 11.1 | 154.00 - 286.00 | 5.52 | L | (Bq/L) |

Flags: A = Result acceptable Bias <= 20%
 W = Result acceptable with warning 20% < Bias <= 30%
 N = Result not acceptable Bias > 30%
 L = Uncertainty potentially too low (for infomation purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

FUSRAP
TNUT01 8945 LATTY AVE
BERKELEY MO 63134

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0)
W = Result acceptable with warning 2.0 < Z-score <=3.0)
N = Result not acceptable Z-score > 3.0)
L = Uncertainty potentially too low (for information purposes only)
H = Uncertainty potentially too high (for information purposes only)
QL = Detection Limit
RW = Report Warning
NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

UPVL99 LAB.RADIACTIVIDAD AMBIENTAL. UNIV. POLITECNIC
CAMINO DE VERA, 14

VALENCIA VALENCI 46071

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|---------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | 0.47 | 0.635 | W | | -26.0 | 0.44 - 0.83 | 0.16 | H | (Bq/L) |
| Cesium-134 | 76.8 | 82.9 | A | | -7.4 | 58.03 - 107.77 | 1.9 | L | (Bq/L) |
| Cesium-137 | 73.7 | 72.7 | A | | 1.4 | 50.89 - 94.51 | 1.7 | L | (Bq/L) |
| Cobalt-57 | 98.5 | 96.8 | A | | 1.8 | 67.76 - 125.84 | 2.2 | L | (Bq/L) |
| Cobalt-60 | 284.0 | 270 | A | | 5.2 | 189.00 - 351.00 | 6.1 | L | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 417.0 | 395 | A | | 5.6 | 276.50 - 513.50 | 9.3 | L | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | 0.3554 | 0.32 | A | | 11.1 | 0.22 - 0.42 | 0.00 | L | (Bq/L) |
| Plutonium-239/240 | 0.00681 | | | | | | 0.00 | | (Bq/L) |
| Strontium-90 | 7.49 | 8.19 | A | | -8.5 | 5.73 - 10.65 | 0.26 | | (Bq/L) |
| Uranium-234/233 | 0.477 | 0.428 | A | | 11.4 | 0.30 - 0.56 | 0.02 | | (Bq/L) |
| Uranium-238 | 0.459 | 0.444 | A | | 3.4 | 0.31 - 0.58 | 0.02 | | (Bq/L) |
| Zinc-65 | 244.9 | 220 | A | | 11.3 | 154.00 - 286.00 | 6.1 | L | (Bq/L) |

Flags: A = Result acceptable Bias <= 20%
 W = Result acceptable with warning 20% < Bias <= 30%
 N = Result not acceptable Bias > 30%
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

UPVL99 LAB.RADIACTIVIDAD AMBIENTAL. UNIV. POLITECNIC
CAMINO DE VERA, 14

VALENCIA VALENCI 46071

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

RECRA LabNet Philadelphia
WEST01 208 Welsh Pool Road

Lionville PA 19341

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Arsenic | 0.21 | 0.203 | A | | 3.4 | 0.14 - 0.26 | | | (mg/L) |
| Barium | 47.7 | 50.8 | A | | -6.1 | 35.56 - 66.04 | | | (mg/L) |
| Beryllium | 0.49 | 0.508 | A | | -3.5 | 0.36 - 0.66 | | | (mg/L) |
| Cadmium | 0.29 | 0.305 | A | | -4.9 | 0.21 - 0.40 | | | (mg/L) |
| Nickel | 0.0014 | | A | | | | | | (mg/L) |
| Selenium | 0.20 | 0.203 | A | | -1.5 | 0.14 - 0.26 | | | (mg/L) |
| Silver | 2.0 | | | Not Evaluated | | | | | (mg/L) |
| Thallium | 0.51 | 0.508 | A | | 0.4 | 0.36 - 0.66 | | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.72 | 0.711 | A | | 1.3 | 0.50 - 0.92 | | | (mg/L) |
| Zinc | 4.8 | 5.08 | A | | -5.5 | 3.56 - 6.60 | | | (mg/L) |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | NR | 82.9 | | | | 58.03 - 107.77 | | | |
| Cesium-137 | NR | 72.7 | | | | 50.89 - 94.51 | | | |
| Cobalt-57 | NR | 96.8 | | | | 67.76 - 125.84 | | | |
| Cobalt-60 | NR | 270 | | | | 189.00 - 351.00 | | | |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | NR | 395 | | | | 276.50 - 513.50 | | | |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | NR | 0.32 | | | | 0.22 - 0.42 | | | |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/238 | NR | 0.428 | | | | 0.30 - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | | 0.31 - 0.58 | | | |
| Zinc-65 | NR | 220 | | | | 154.00 - 286.00 | | | |

Flags: A = Result acceptable Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable Bias > 30%

L = Uncertainty potentially too low (for information purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

RECRA LabNet Philadelphia
WEST01 208 Welsh Pool Road

Lionville PA 19341

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|---------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | 24.2 | 30.6 | A | | -0.8 | 6.29 - 55.08 | (ug/L) |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | 17.0 | 19.5 | A | | -0.5 | 3.13 - 35.93 | (ug/L) |
| Naphthalene | 14.0 | 15 | A | | -0.2 | QL - 30.44 | (ug/L) |
| 2,4,6-Trichlorophenol | 31.5 | | | | | | (ug/L) |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | 19.2 | 20.6 | A | | -0.2 | 0.98 - 40.08 | (ug/L) |
| 2,4-Dinitrotoluene | 30.8 | 34.7 | A | | -0.5 | 9.43 - 60.01 | (ug/L) |
| 2,4-Dinitrophenol | 4.25 | 9.2 | A | | -0.9 | QL - 26.18 | (ug/L) |
| Diethylphthalate | 19.0 | 20.5 | A | | -0.2 | QL - 42.24 | (ug/L) |
| Anthracene | 18.8 | 23 | A | | -0.6 | QL - 50.05 | (ug/L) |
| Di-n-butylphthalate | 28.5 | 30 | A | | -0.1 | 0.55 - 58.30 | (ug/L) |
| Fluoranthene | 34.1 | 39.5 | A | | -0.5 | 6.34 - 73.79 | (ug/L) |
| Pyrene | 31.2 | 29.9 | A | | 0.1 | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | 24.3 | 25.6 | A | | -0.2 | 1.89 - 49.84 | (ug/L) |
| Bis(2-ethylhexyl)phthalat | 1.53 | | | FP | | | (ug/L) |

Flags: A = Result acceptable Z-score <=2.0)

W = Result acceptable with warning 2.0 < Z-score <=3.0)

N = Result not acceptable Z-score > 3.0)

L = Uncertainty potentially too low (for infomation purposes only)

H = Uncertainty potentially too high (for information purposes only)

QL = Detection Limit

RW = Report Warning

NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

Waste Sampling and Characterization Facility
WEST03 PO Box 700, S3-31

Richland WA 99352

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|---------------|----------|------------------|-----------|-----------|--------|
| Arsenic | 0.195 | 0.203 | A | | -3.9 | 0.14 - 0.26 | .020 | | (mg/L) |
| Barium | 54.8 | 50.8 | A | | 7.9 | 35.56 - 66.04 | 5.6 | | (mg/L) |
| Beryllium | 0.533 | 0.508 | A | | 4.9 | 0.36 - 0.66 | 0.05 | | (mg/L) |
| Cadmium | 0.327 | 0.305 | A | | 7.2 | 0.21 - 0.40 | 0.03 | | (mg/L) |
| Selenium | 0.173 | 0.203 | A | | -14.8 | 0.14 - 0.26 | 0.02 | | (mg/L) |
| Silver | 0.111 | | | Not Evaluated | | | 0.01 | | (mg/L) |
| Thallium | 0.524 | 0.508 | A | | 3.2 | 0.36 - 0.66 | 0.06 | | (mg/L) |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | 0.732 | 0.711 | A | | 3.0 | 0.50 - 0.92 | 0.08 | | (mg/L) |
| Zinc | 5.59 | 5.08 | A | | 10.0 | 3.56 - 6.60 | 0.63 | | (mg/L) |
| Americium-241 | 0.65 | 0.635 | A | | 2.4 | 0.44 - 0.83 | 0.10 | | (Bq/L) |
| Cesium-134 | 66.2 | 82.9 | W | | -20.1 | 58.03 - 107.77 | 2.2 | | (Bq/L) |
| Cesium-137 | 70.9 | 72.7 | A | | -2.5 | 50.89 - 94.51 | 4.8 | | (Bq/L) |
| Cobalt-57 | 93.0 | 96.8 | A | | -3.9 | 67.76 - 125.84 | 39.8 | H | (Bq/L) |
| Cobalt-60 | 271 | 270 | A | | 0.4 | 189.00 - 351.00 | 11 | | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 408 | 395 | A | | 3.3 | 276.50 - 513.50 | 28 | | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | 0.30 | 0.32 | A | | -6.3 | 0.22 - 0.42 | 0.05 | | (Bq/L) |
| Strontium-90 | 9.64 | 8.19 | A | | 17.7 | 5.73 - 10.65 | 0.68 | | (Bq/L) |
| Uranium-234/233 | 0.50 | 0.428 | A | | 16.8 | 0.30 - 0.56 | 0.08 | | (Bq/L) |
| Uranium-238 | 0.46 | 0.444 | A | | 3.6 | 0.31 - 0.58 | 0.07 | | (Bq/L) |
| Zinc-65 | 242 | 220 | A | | 10.0 | 154.00 - 286.00 | 14 | | (Bq/L) |

Flags: A = Result acceptable Bias <= 20%
 W = Result acceptable with warning 20% < Bias <= 30%
 N = Result not acceptable Bias > 30%
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID: MAPEP-99-W7

Waste Sampling and Characterization Facility
WEST03 PO Box 700, S3-31

Richland WA 99352

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|--------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | 40 | 30.6 | A | | 1.1 | 6.29 - 55.08 | (ug/L) |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | 23 | 19.5 | A | | 0.6 | 3.13 - 35.93 | (ug/L) |
| Naphthalene | 20 | | 15 | A | 1.0 | QL - 30.44 | (ug/L) |
| 2,4,6-Trichlorophenol | 52 | | | | | | (ug/L) |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | 25 | 20.6 | A | | 0.7 | 0.98 - 40.08 | (ug/L) |
| 2,4-Dinitrotoluene | 44 | 34.7 | A | | 1.1 | 9.43 - 60.01 | (ug/L) |
| 2,4-Dinitrophenol | NR | 9.2 | | FN | | QL - 26.18 | |
| Diethylphthalate | 24 | 20.5 | A | | 0.5 | QL - 42.24 | (ug/L) |
| Phenanthrene | 18 | | N | FP | | | (ug/L) |
| Anthracene | 17 | 23 | A | | -0.8 | QL - 50.05 | (ug/L) |
| Di-n-butylphthalate | 38 | | 30 | A | 0.9 | 0.55 - 58.30 | (ug/L) |
| Fluoranthene | 44 | 39.5 | A | | 0.3 | 6.34 - 73.79 | (ug/L) |
| Pyrene | 27 | 29.9 | A | | -0.3 | QL - 60.97 | (ug/L) |
| Benzo(a)anthracene | 12 | 25.6 | A | | -1.7 | 1.89 - 49.84 | (ug/L) |

- Flags:**
- A = Result acceptable Z-score <=2.0)
 - W = Result acceptable with warning 2.0 < Z-score <=3.0)
 - N = Result not acceptable Z-score > 3.0)
 - L = Uncertainty potentially too low (for information purposes only)
 - H = Uncertainty potentially too high (for information purposes only)
 - QL = Detection Limit
 - RW = Report Warning
 - NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

WRR199 Water Resources Research Center
 Kavassay Jeno ut1
 1095 Budapest

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-----------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | NR | 0.635 | | | | 0.44 - 0.83 | | | |
| Cesium-134 | 71.7 | 82.9 | A | | -13.5 | 58.03 - 107.77 | 1.2 | L | (Bq/L) |
| Cesium-137 | 67.0 | 72.7 | A | | -7.8 | 50.89 - 94.51 | 1.5 | L | (Bq/L) |
| Cobalt-57 | 94.6 | 96.8 | A | | -2.3 | 67.76 - 125.84 | 1.9 | L | (Bq/L) |
| Cobalt-60 | 260.0 | 270 | A | | -3.7 | 189.00 - 351.00 | 7.9 | | (Bq/L) |
| Iron-55 | NR | 97 | | | | 67.90 - 126.10 | | | |
| Manganese-54 | 380.0 | 395 | A | | -3.8 | 276.50 - 513.50 | 8.8 | L | (Bq/L) |
| Nickel-63 | NR | 157 | | | | 109.90 - 204.10 | | | |
| Plutonium-238 | NR | 0.32 | | | | 0.22 - 0.42 | | | |
| Strontium-90 | NR | 8.19 | | | | 5.73 - 10.65 | | | |
| Uranium-234/233 | NR | 0.428 | | | | 0.30 - 0.56 | | | |
| Uranium-238 | NR | 0.444 | | | | 0.31 - 0.58 | | | |
| Zinc-65 | 224.2 | 220 | A | | 1.9 | 154.00 - 286.00 | 5.3 | L | (Bq/L) |

Flags:

- A = Result acceptable Bias <= 20%
- W = Result acceptable with warning 20% < Bias <= 30%
- N = Result not acceptable Bias > 30%
- L = Uncertainty potentially too low (for information purposes only)
- H = Uncertainty potentially too high (for information purposes only)
- QL = Detection Limit
- RW = Report Warning
- NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

Water Resources Research Center
WRRI99 Kavassay Jeno ut1
 1095 Budapest

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

DUKE ENGINEERING & SERVICES ENVIRONMENTAL
YAEC01
 29 Research Drive
 Marlborough MA 01752

| Analyte | Result | Ref Value | Flag | Flag Text | Bias (%) | Acceptance Range | Unc Value | Unc. Flag | Units |
|-------------------|--------|-----------|------|-----------|----------|------------------|-----------|-----------|--------|
| Arsenic | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Barium | NR | 50.8 | | | | 35.56 - 66.04 | | | |
| Beryllium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Cadmium | NR | 0.305 | | | | 0.21 - 0.40 | | | |
| Selenium | NR | 0.203 | | | | 0.14 - 0.26 | | | |
| Thallium | NR | 0.508 | | | | 0.36 - 0.66 | | | |
| Uranium-Total | NR | 0.036 | | | | | | | |
| Uranium-238 | NR | 0.036 | | | | | | | |
| Vanadium | NR | 0.711 | | | | 0.50 - 0.92 | | | |
| Zinc | NR | 5.08 | | | | 3.56 - 6.60 | | | |
| Americium-241 | 0.615 | 0.635 | A | | -3.2 | 0.44 - 0.83 | 0.02 | | (Bq/L) |
| Cesium-134 | 80.4 | 82.9 | A | | -3.0 | 58.03 - 107.77 | 1.2 | L | (Bq/L) |
| Cesium-137 | 66.2 | 72.7 | A | | -8.9 | 50.89 - 94.51 | 1.2 | L | (Bq/L) |
| Cobalt-57 | 90.77 | 96.8 | A | | -6.2 | 67.76 - 125.84 | 0.69 | L | (Bq/L) |
| Cobalt-60 | 262.5 | 270 | A | | -2.8 | 189.00 - 351.00 | 1.6 | L | (Bq/L) |
| Iron-55 | 2630 | 97 | N | | 2611.3 | 67.90 - 126.10 | 220 | | (Bq/L) |
| Manganese-54 | 383.4 | 395 | A | | -2.9 | 276.50 - 513.50 | 2.6 | L | (Bq/L) |
| Nickel-63 | 4000 | 157 | N | | 2447.8 | 109.90 - 204.10 | 318 | | (Bq/L) |
| Plutonium-238 | 0.346 | 0.32 | A | | 8.1 | 0.22 - 0.42 | 0.01 | | (Bq/L) |
| Plutonium-239/240 | 0.0078 | | | | | | 0.00 | | (Bq/L) |
| Strontium-90 | 6.34 | 8.19 | W | | -22.6 | 5.73 - 10.65 | 0.68 | | (Bq/L) |
| Uranium-234/233 | 0.491 | 0.428 | A | | 14.7 | 0.30 - 0.56 | 0.02 | | (Bq/L) |
| Uranium-238 | 0.517 | 0.444 | A | | 16.4 | 0.31 - 0.58 | 0.02 | | (Bq/L) |
| Zinc-65 | 221.2 | 220 | A | | 0.5 | 154.00 - 286.00 | 3.7 | L | (Bq/L) |

Flags: A = Result acceptable Bias <= 20%
 W = Result acceptable with warning 20% < Bias <= 30%
 N = Result not acceptable Bias > 30%
 L = Uncertainty potentially too low (for infomation purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

Mixed Analyte Performance Evaluation Program

Laboratory Results

Sample ID:

DUKE ENGINEERING & SERVICES ENVIRONMENTAL
YAEC01
 29 Research Drive
 Marlborough MA 01752

| Analyte | Result | Ref Value | Flag | Flag Text | Z Score | Acceptance Range | Units |
|------------------------|--------|-----------|------|-----------|---------|------------------|-------|
| Phenol | NR | 23.9 | | | | | |
| 2-Chlorophenol | NR | 30.2 | | | | QL - 92.64 | |
| 1,3-Dichlorobenzene | NR | 30.6 | | | | 6.29 - 55.08 | |
| 2,4-Dimethylphenol | NR | 15.9 | | | | QL - 43.53 | |
| 2,4-Dichlorophenol | NR | 27.6 | | | | QL - 78.93 | |
| 1,2,4-Trichlorobenzene | NR | 19.5 | | | | 3.13 - 35.93 | |
| Naphthalene | NR | 15 | | | | QL - 30.44 | |
| 2,6-Dichlorophenol | NR | 39.1 | | | | | |
| 2,6-Dinitrotoluene | NR | 20.6 | | | | 0.98 - 40.08 | |
| 2,4-Dinitrotoluene | NR | 34.7 | | | | 9.43 - 60.01 | |
| 2,4-Dinitrophenol | NR | 9.2 | | | | QL - 26.18 | |
| Diethylphthalate | NR | 20.5 | | | | QL - 42.24 | |
| Anthracene | NR | 23 | | | | QL - 50.05 | |
| Di-n-butylphthalate | NR | 30 | | | | 0.55 - 58.30 | |
| Fluoranthene | NR | 39.5 | | | | 6.34 - 73.79 | |
| Pyrene | NR | 29.9 | | | | QL - 60.97 | |
| Benzo(a)anthracene | NR | 25.6 | | | | 1.89 - 49.84 | |

Flags: A = Result acceptable Z-score <=2.0
 W = Result acceptable with warning 2.0 < Z-score <=3.0
 N = Result not acceptable Z-score > 3.0
 L = Uncertainty potentially too low (for information purposes only)
 H = Uncertainty potentially too high (for information purposes only)
 QL = Detection Limit
 RW = Report Warning
 NR = Not Reported

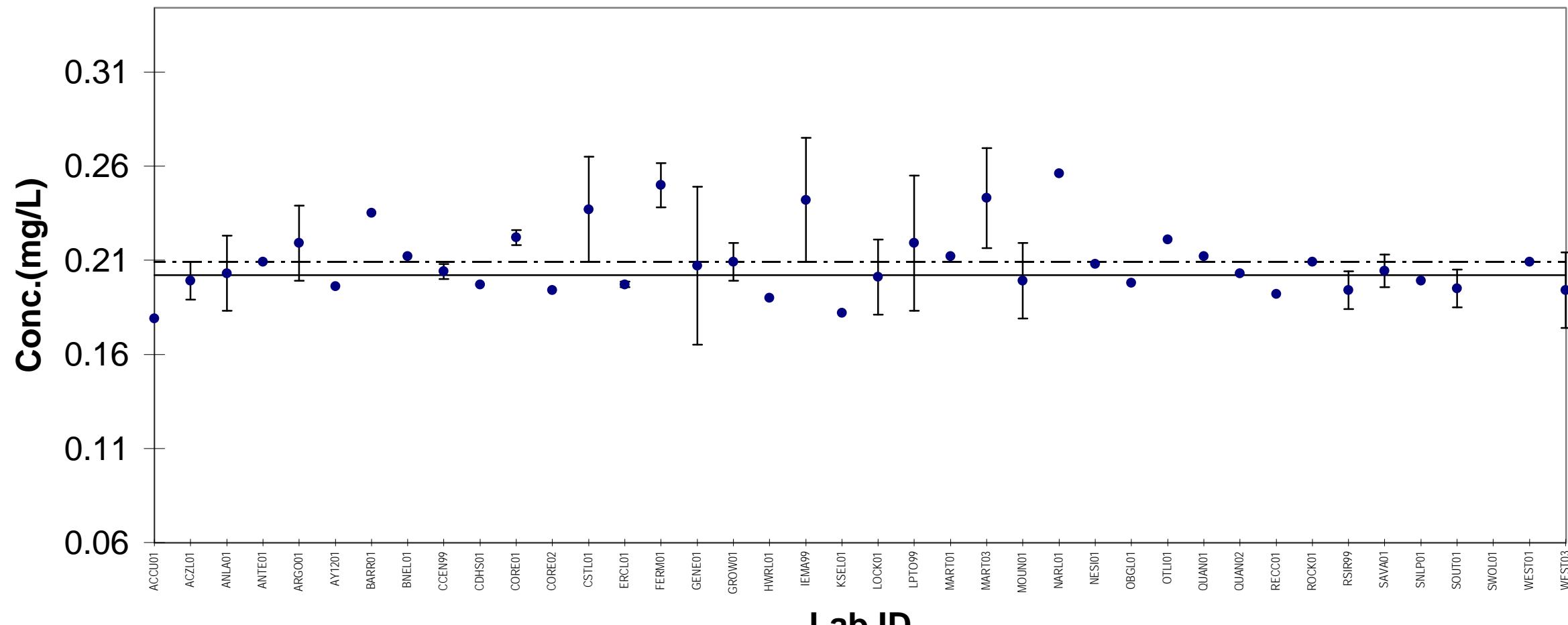
APPENDIX

C

**Graphics of Data Gathered from Water
Sample MAPEP-99-W7**

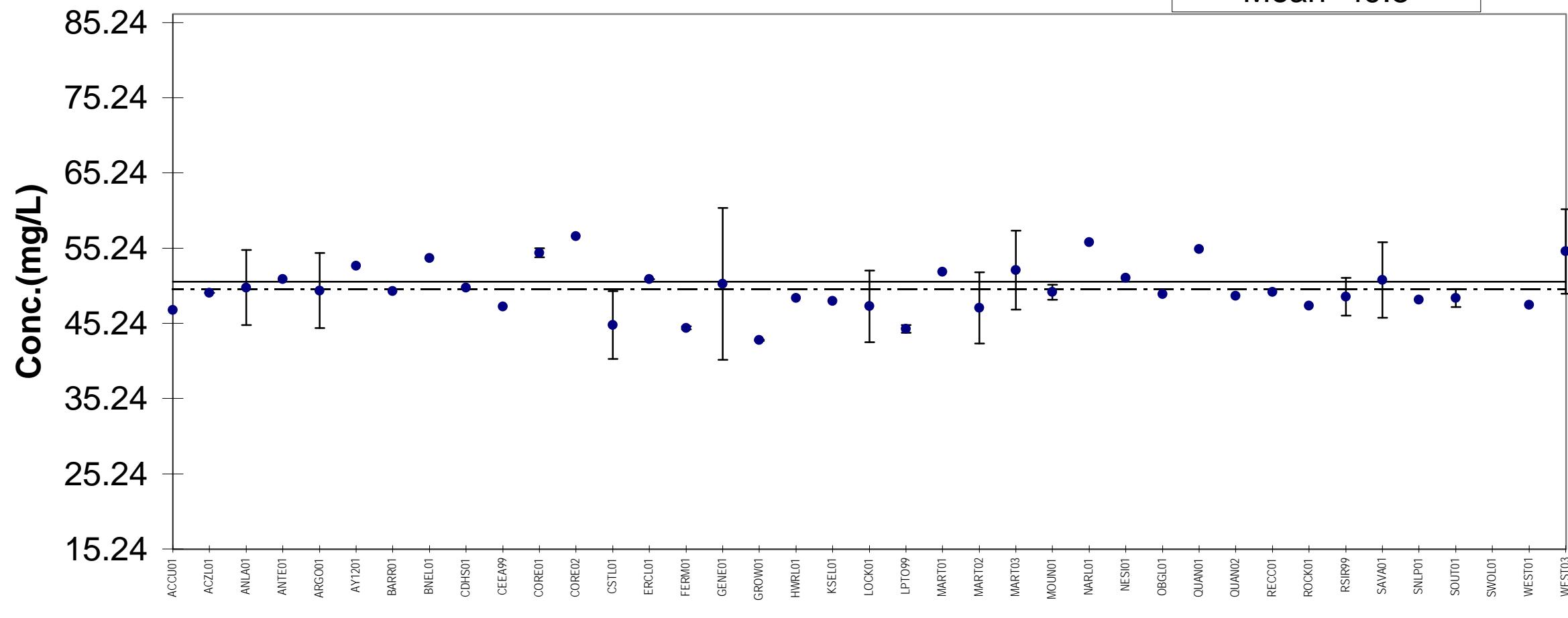
Arsenic MAPEP-99-W7

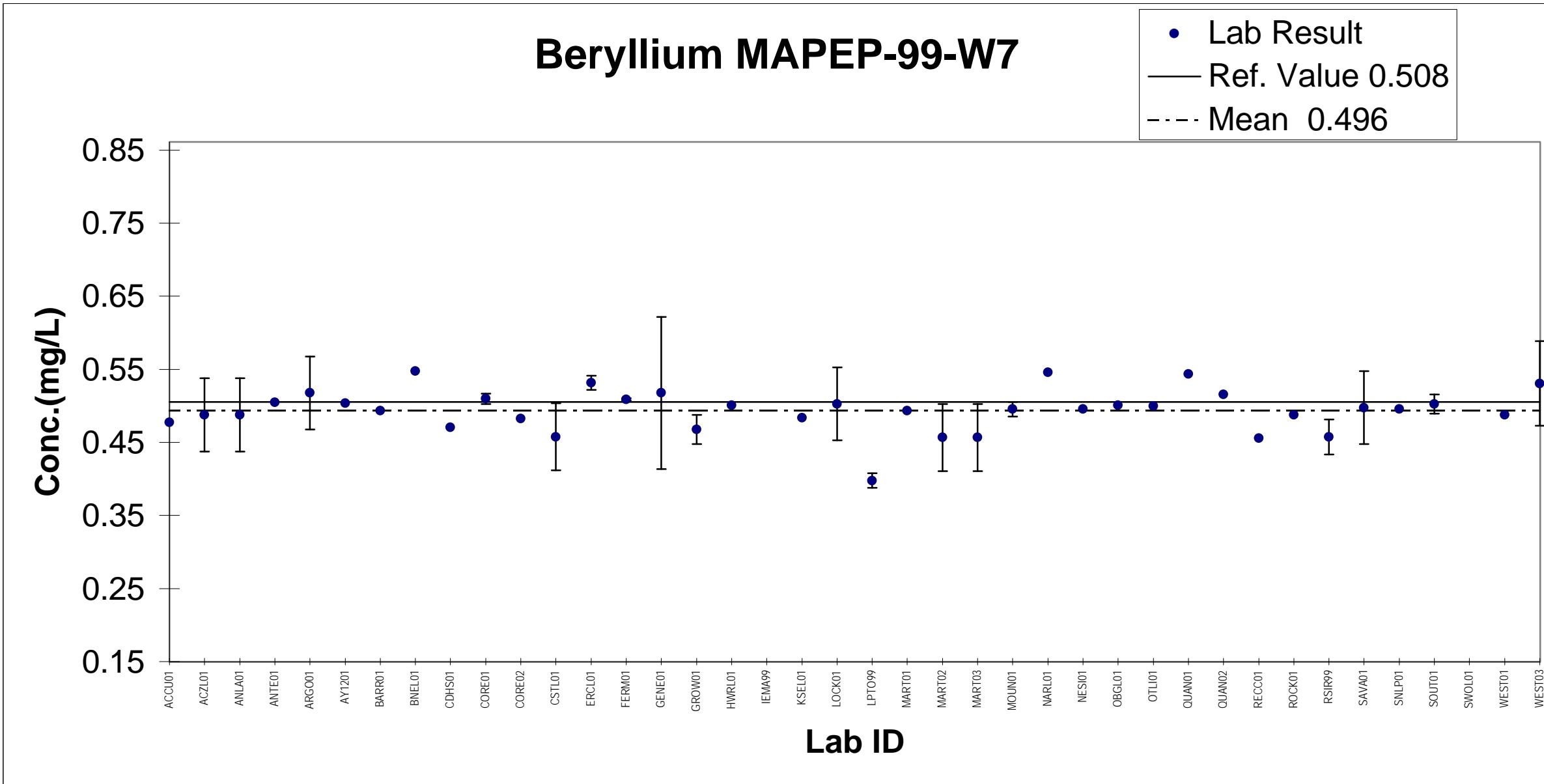
• Lab Result
— Ref. Value 0.203
- - - Mean 0.210



Barium MAPEP-99-W7

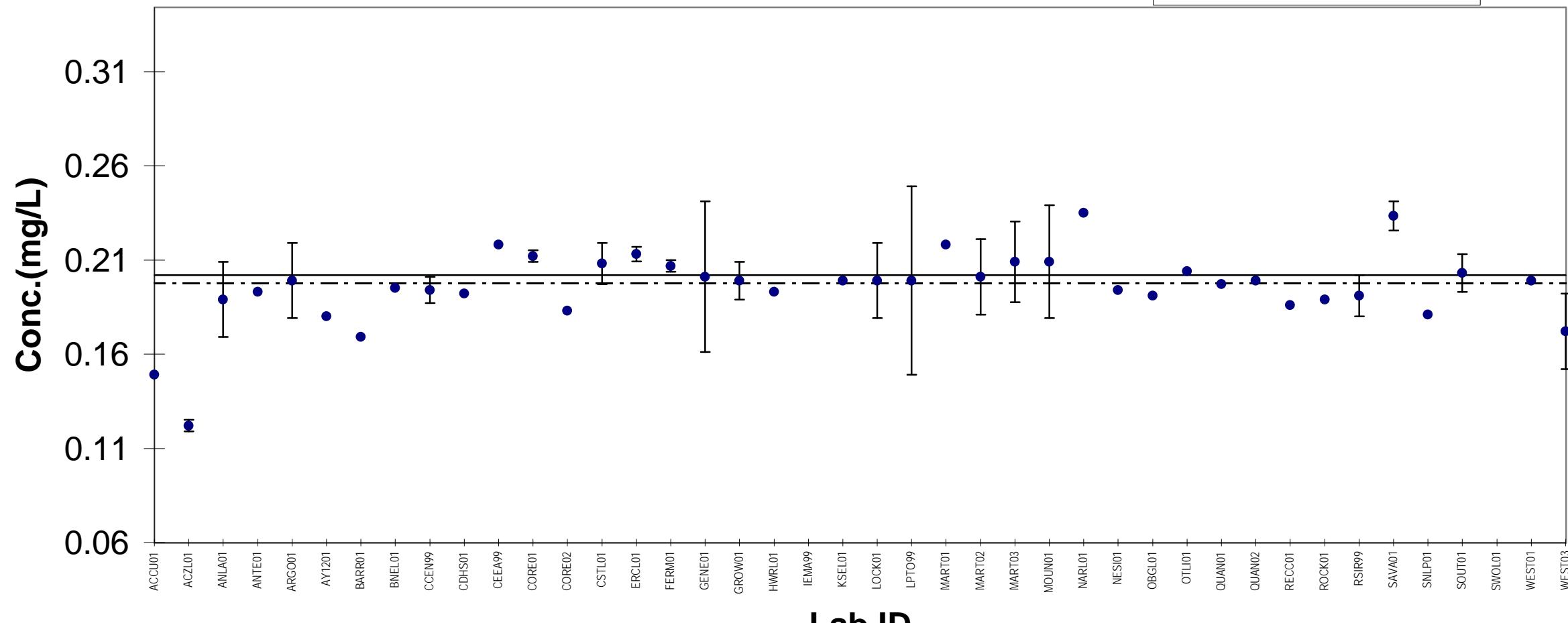
• Lab Result
— Ref. Value 50.8
- - - Mean 49.8

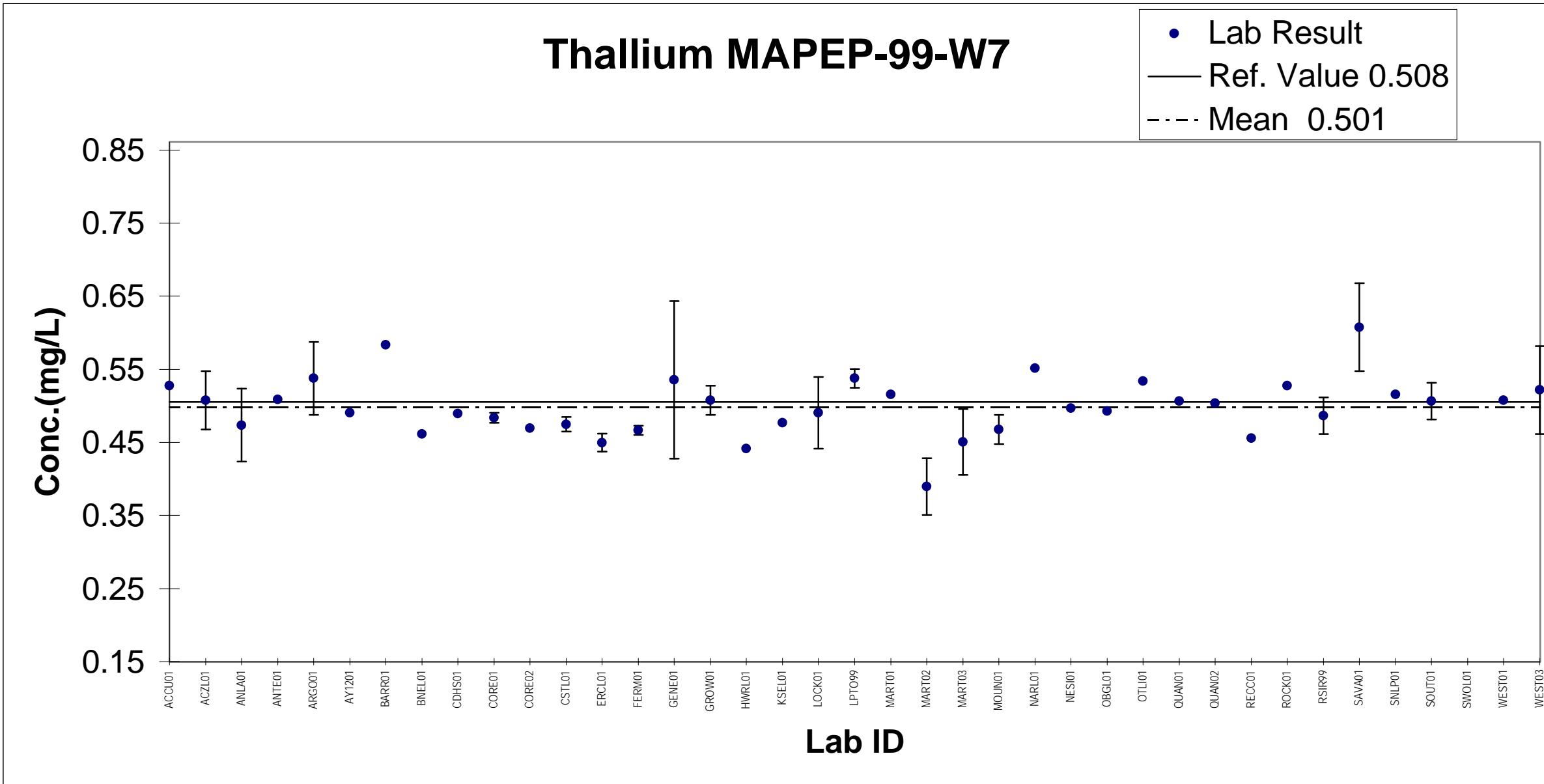




Selenium MAPEP-99-W7

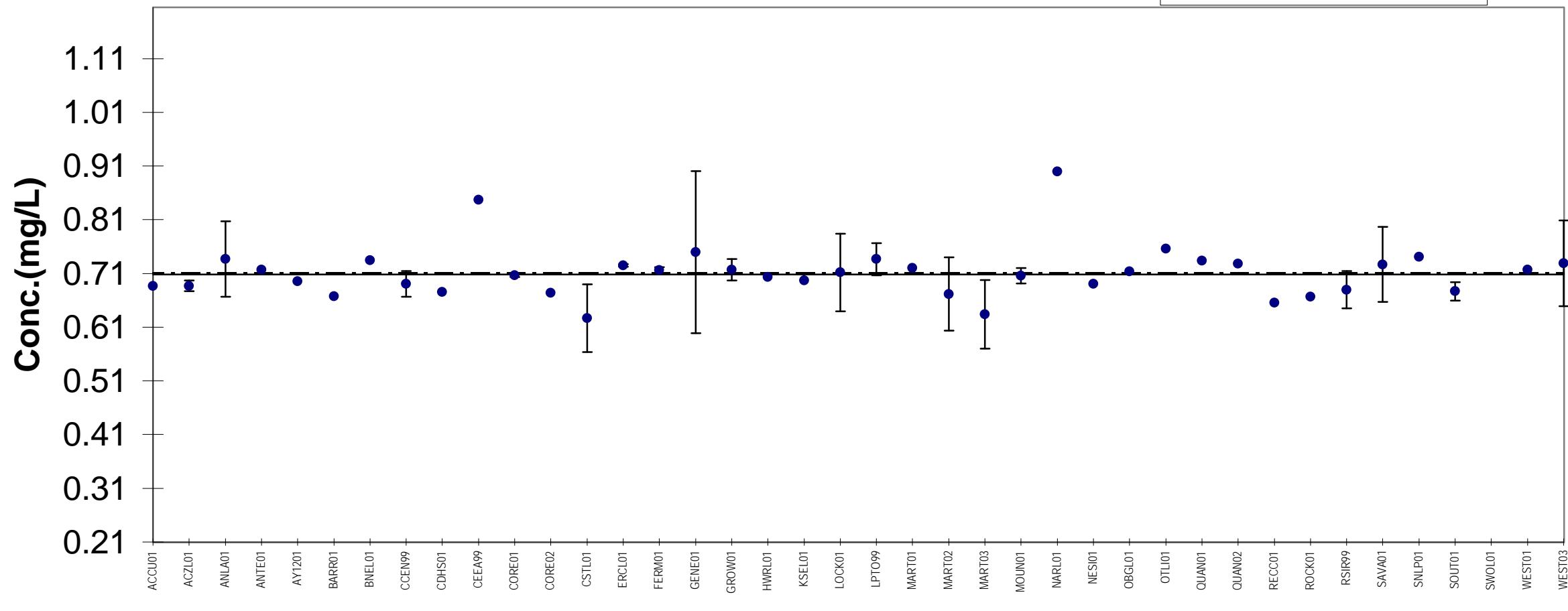
• Lab Result
— Ref. Value 0.203
- - - Mean 0.198

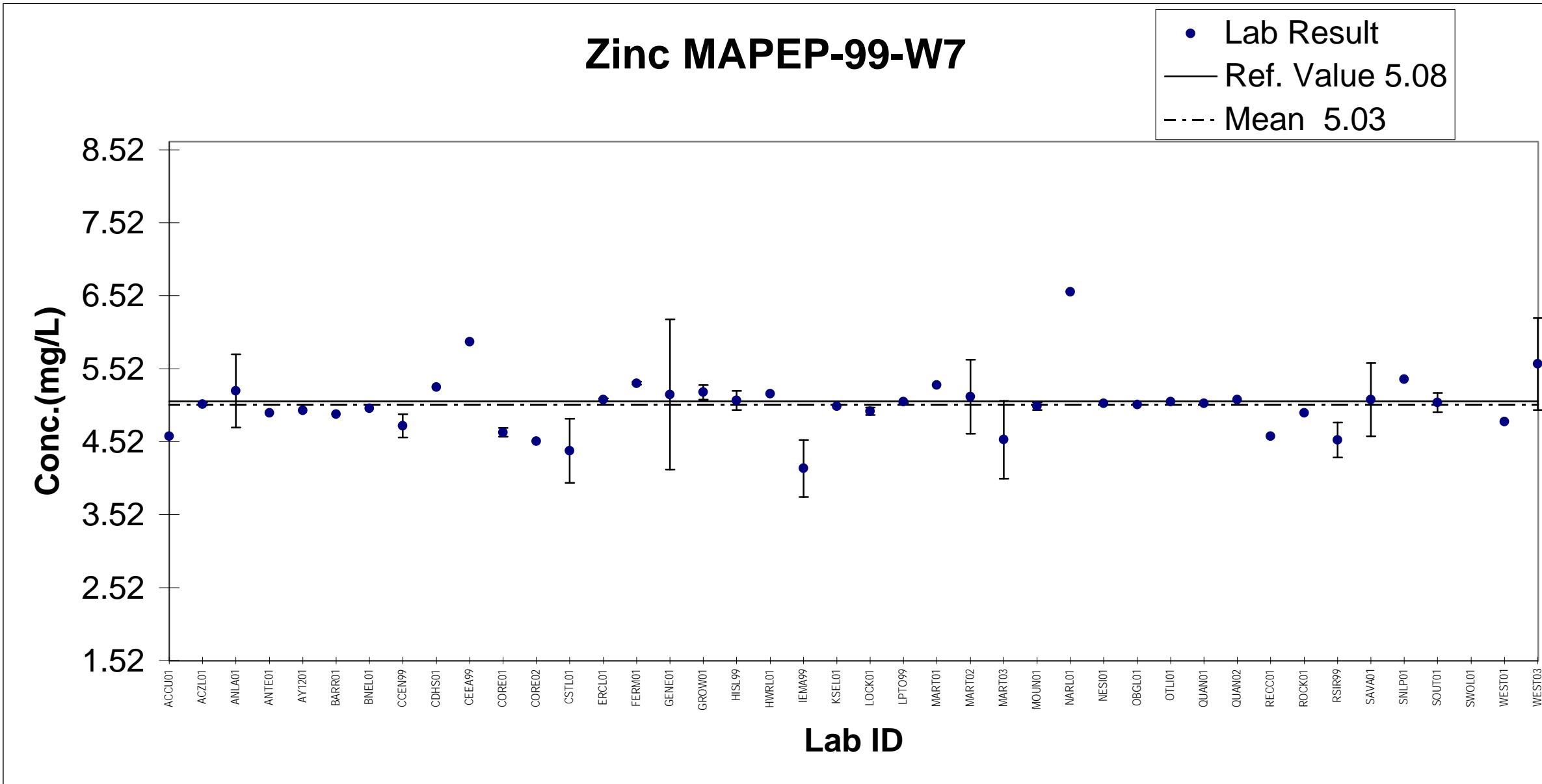




Vanadium MAPEP-99-W7

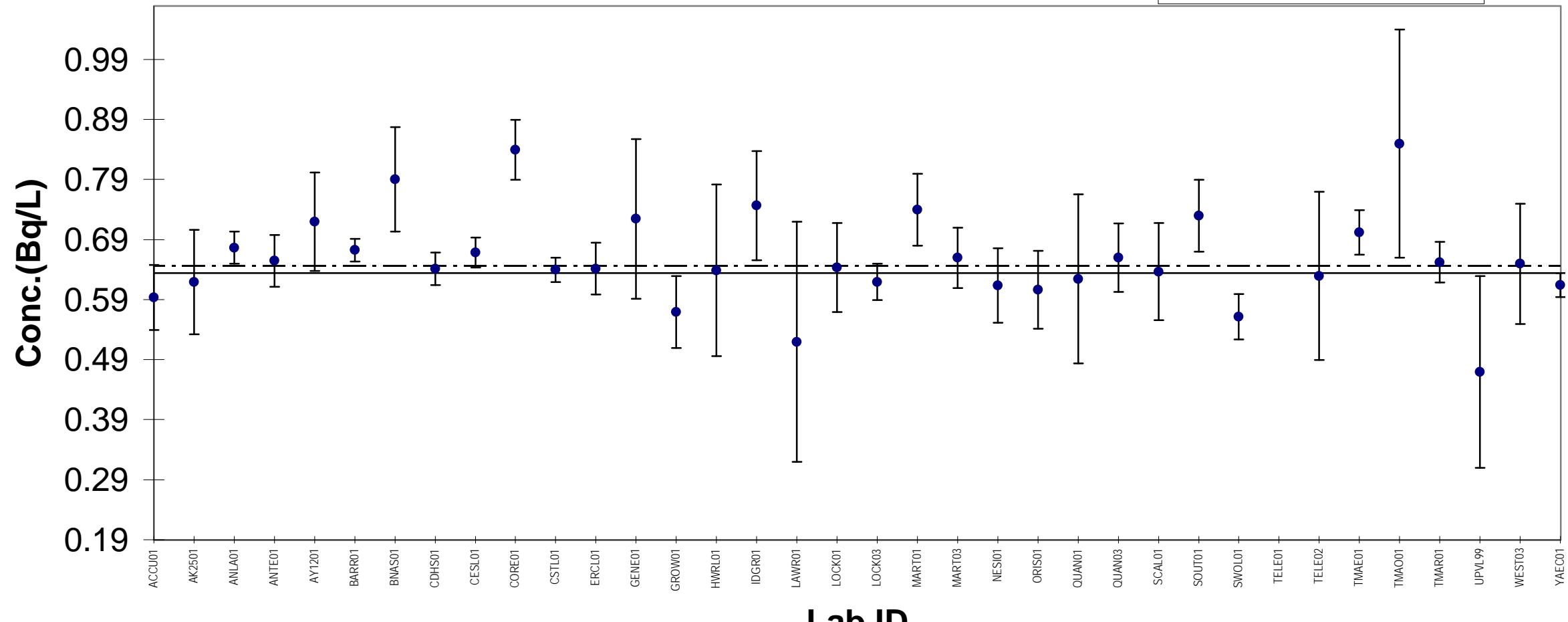
• Lab Result
— Ref. Value 0.711
- - - Mean 0.715





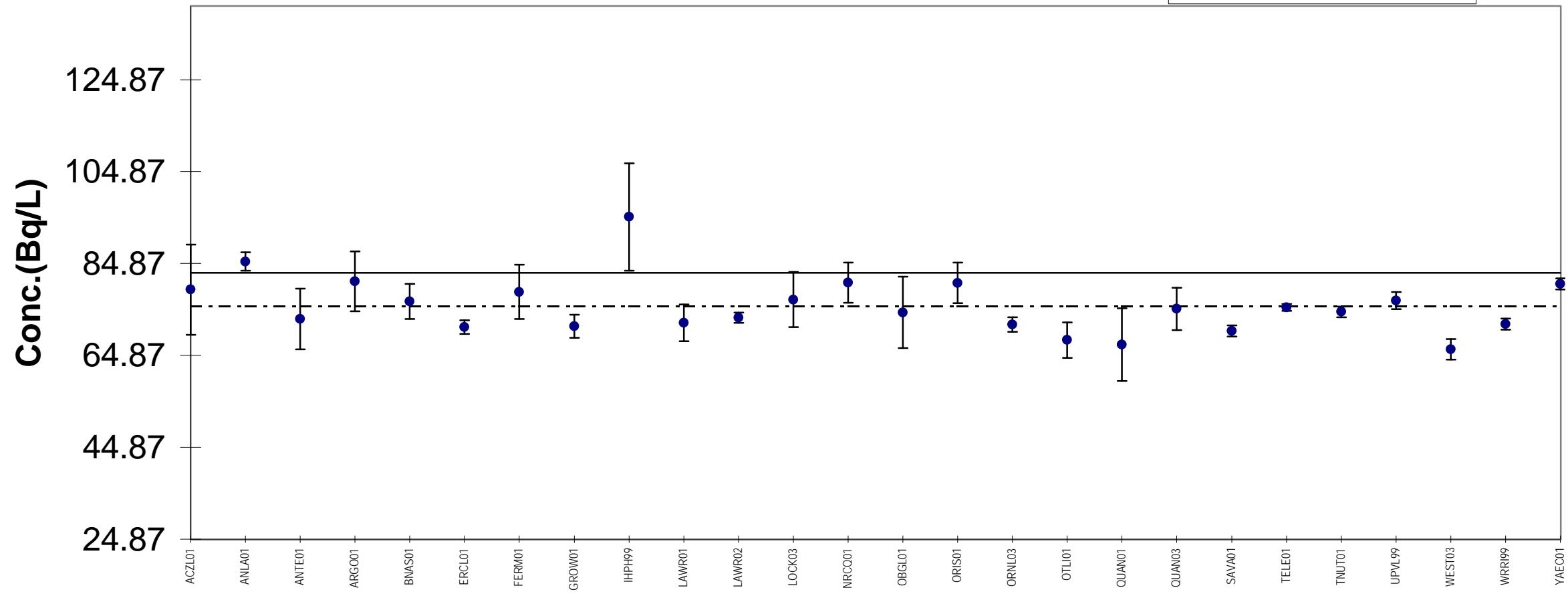
Americium-241 MAPEP-99-W7

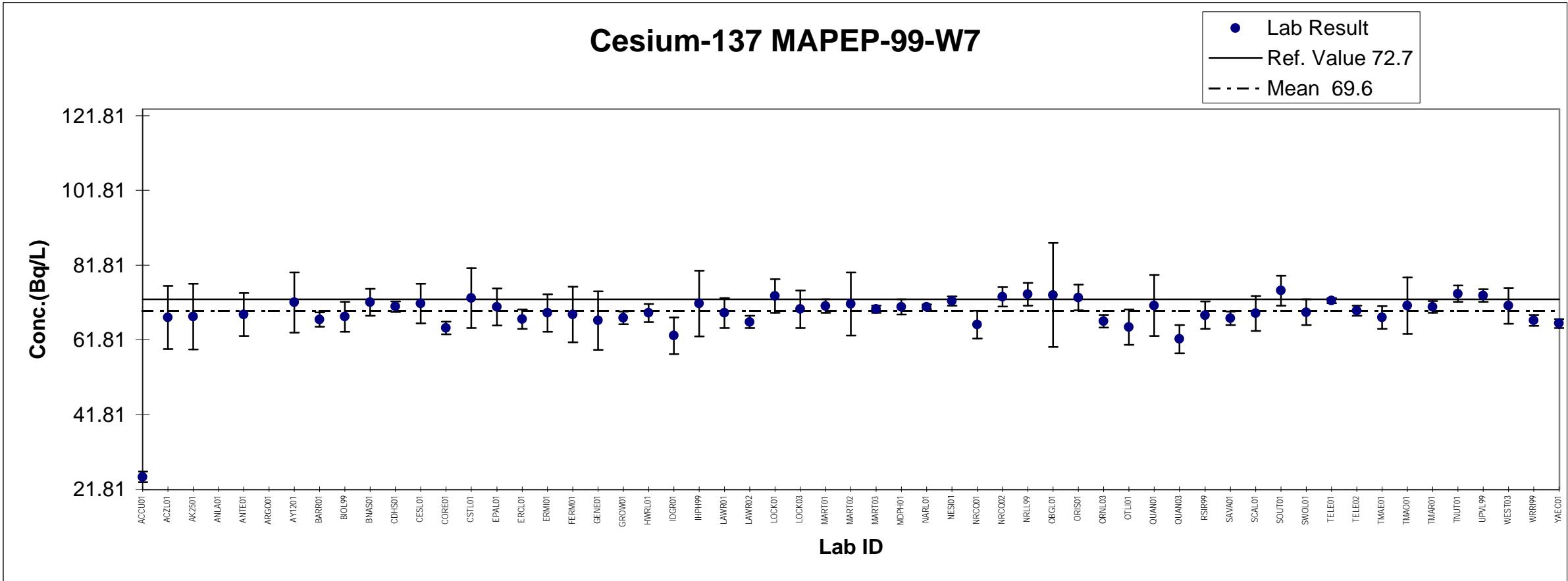
• Lab Result
— Ref. Value 0.635
- - - Mean 0.647

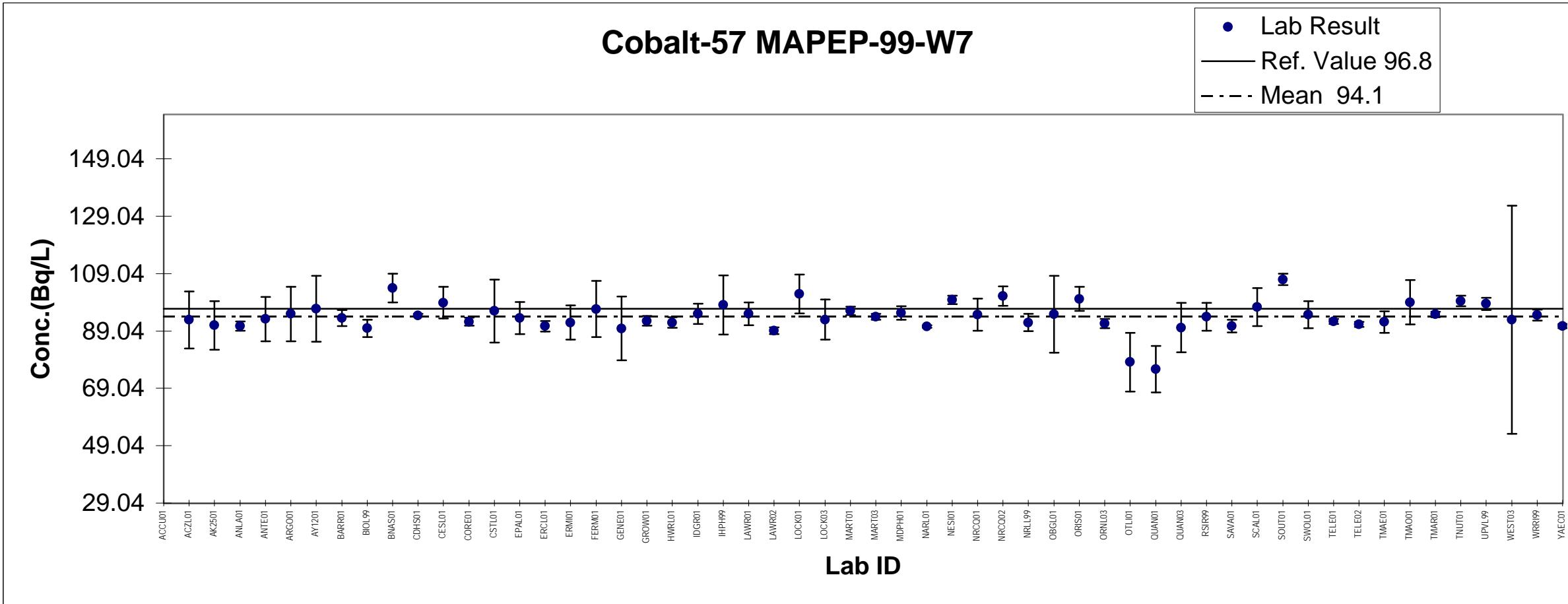


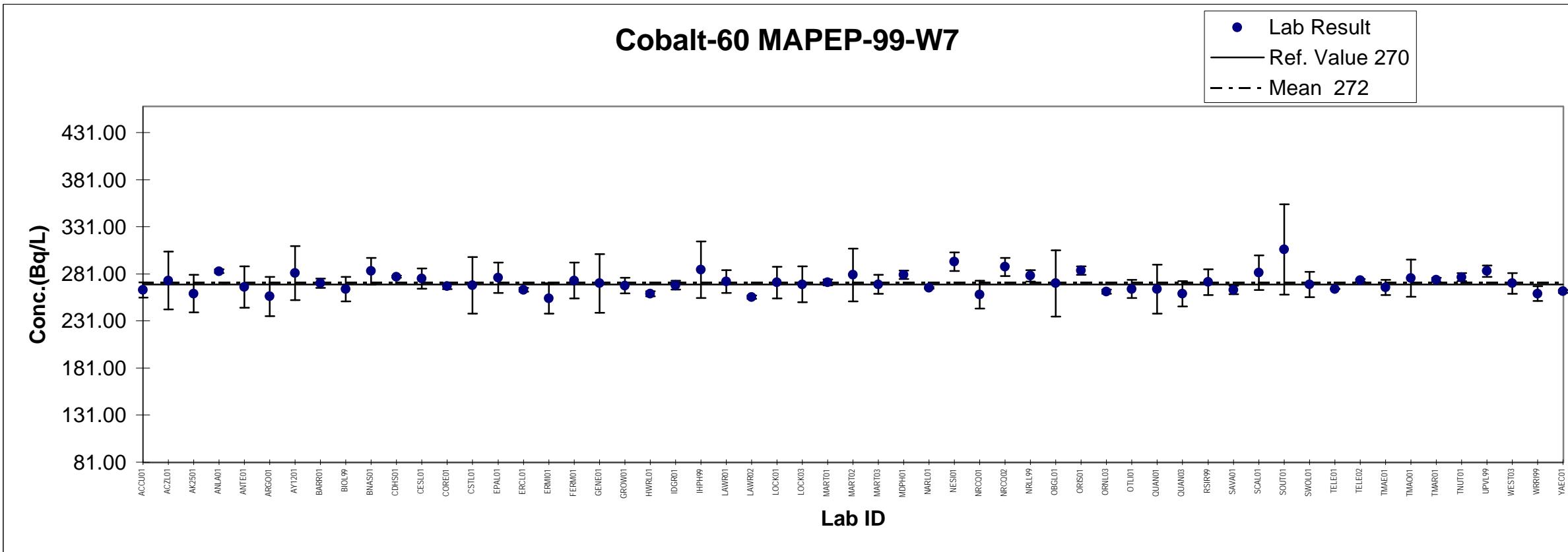
Cesium-134 MAPEP-99-W7

• Lab Result
— Ref. Value 82.9
- - - Mean 75.6



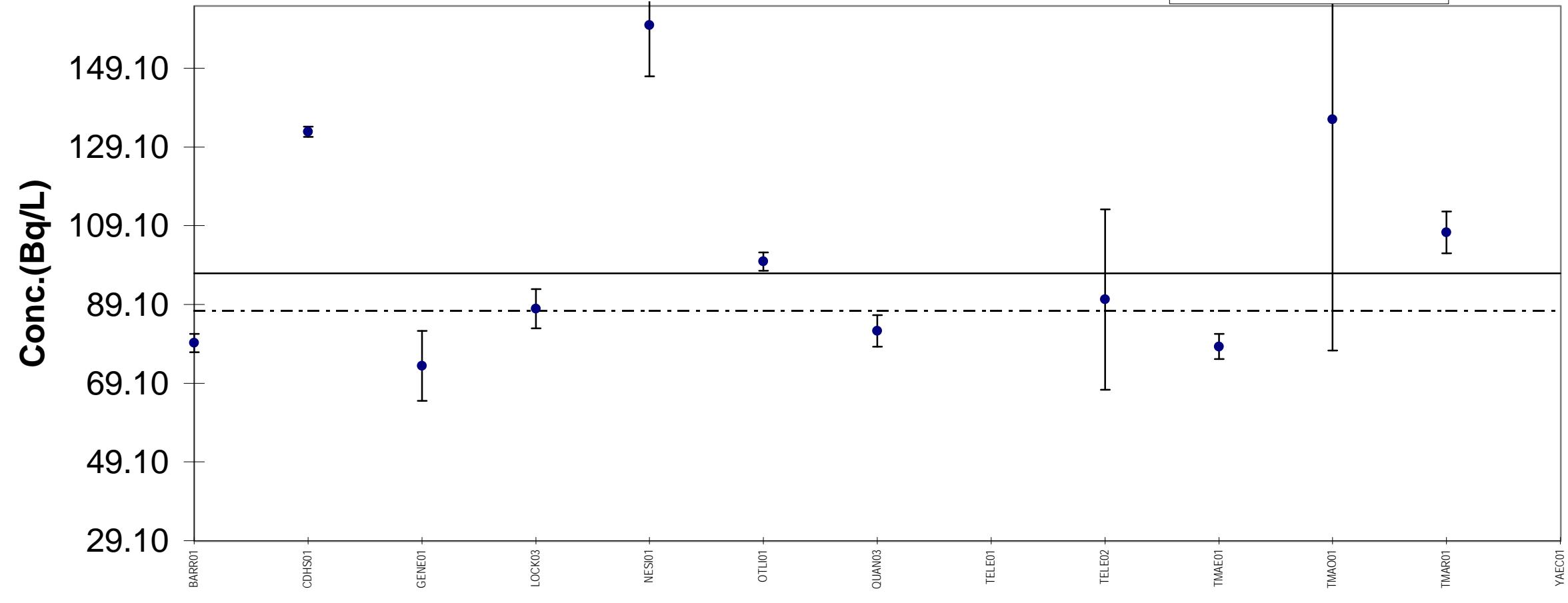


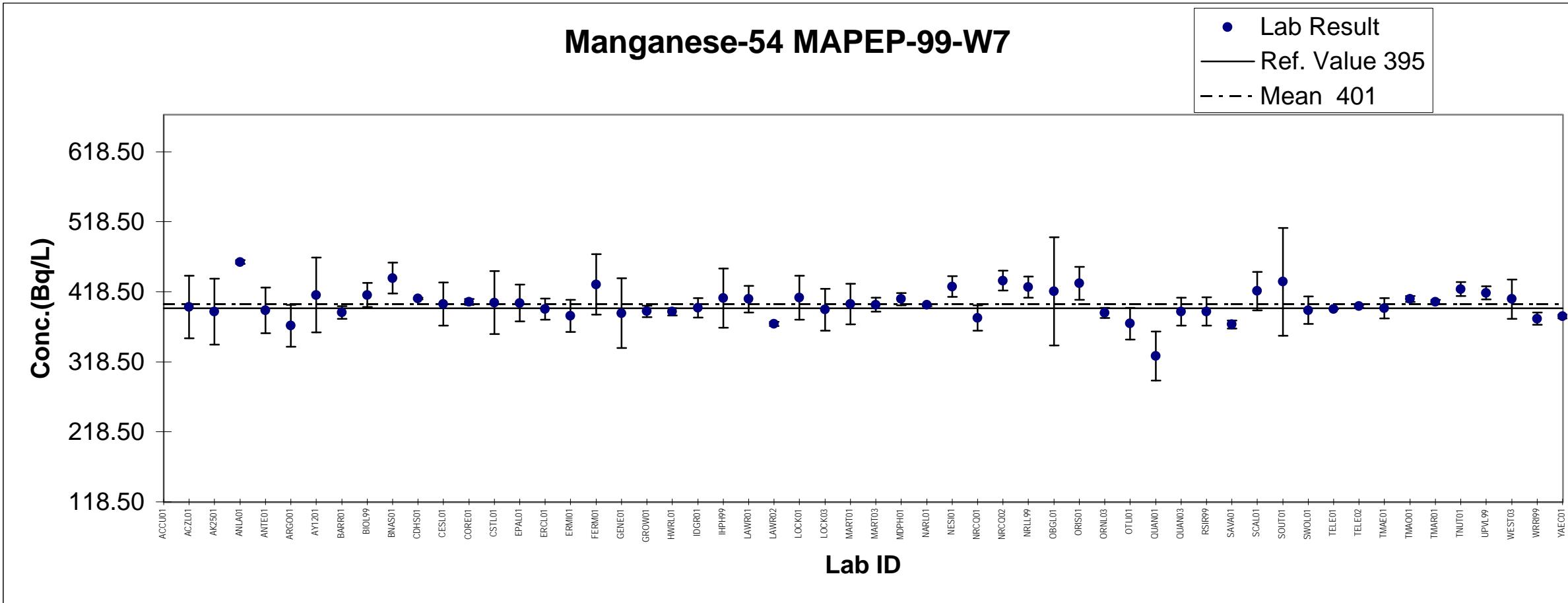




Iron-55 MAPEP-99-W7

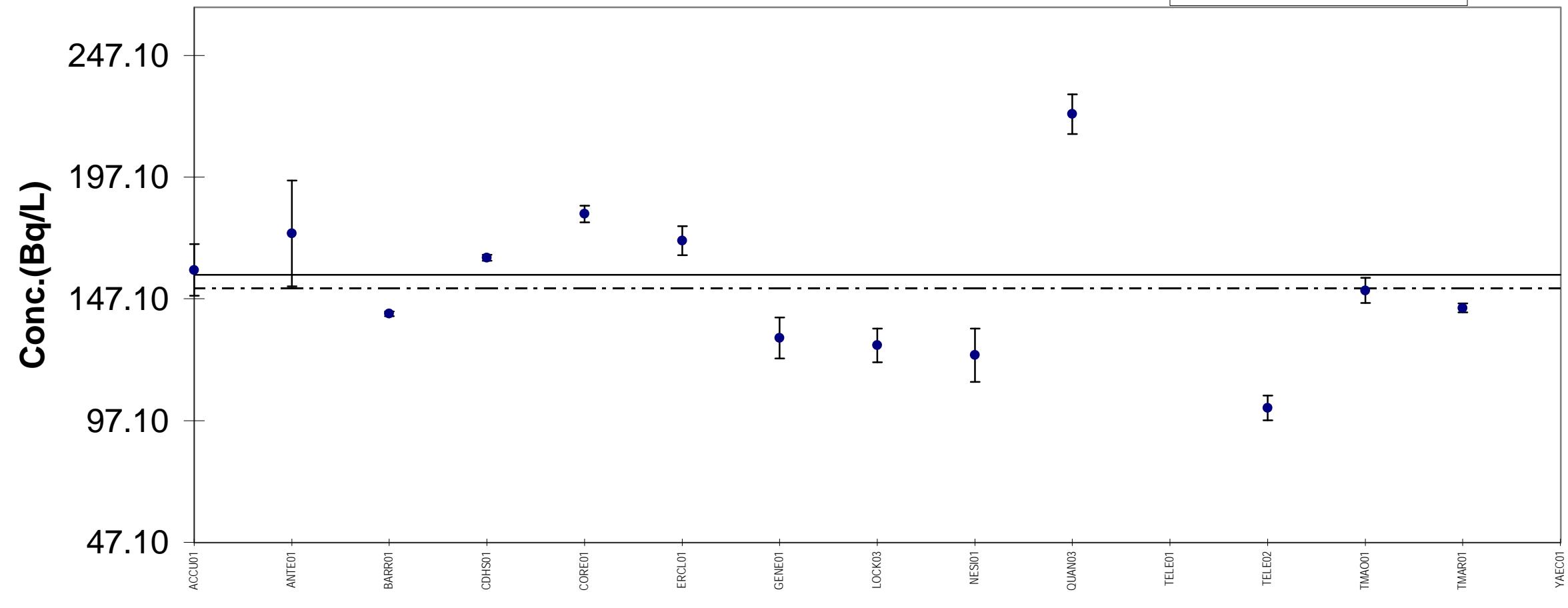
• Lab Result
— Ref. Value 97
- - - Mean 87





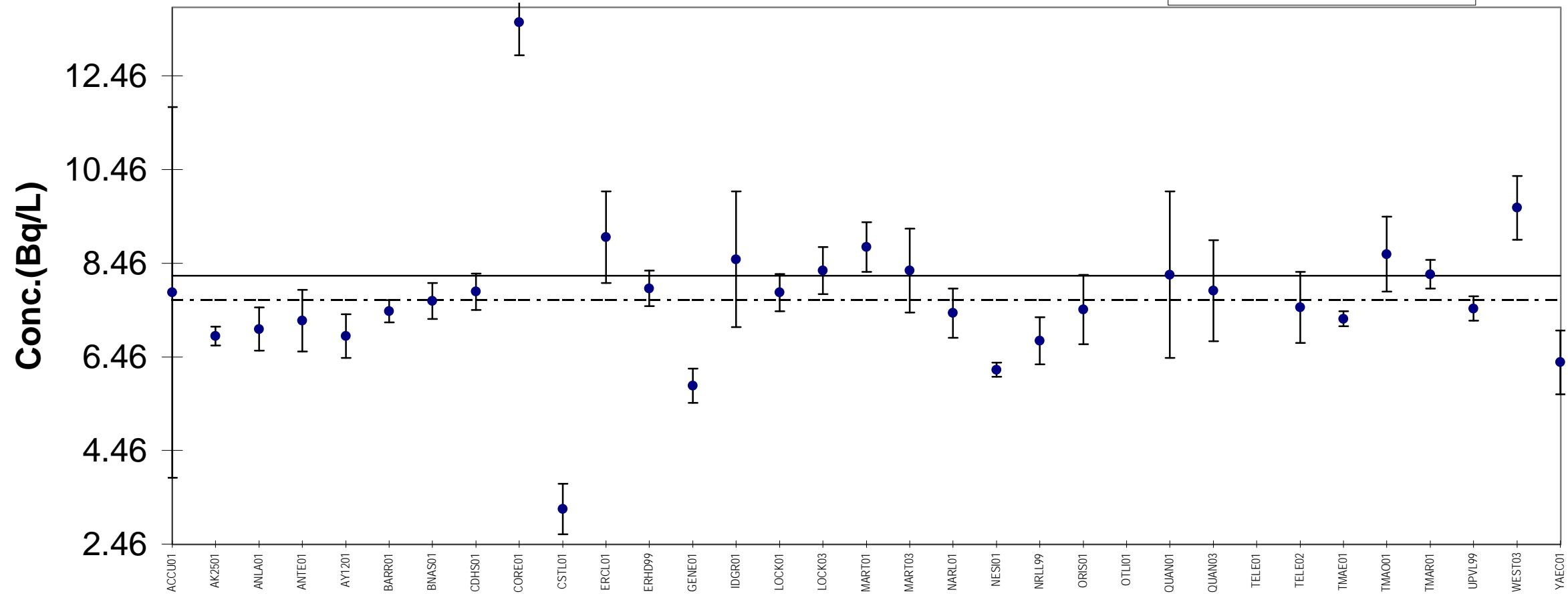
Nickel-63 MAPEP-99-W7

• Lab Result
— Ref. Value 157
- - - Mean 152



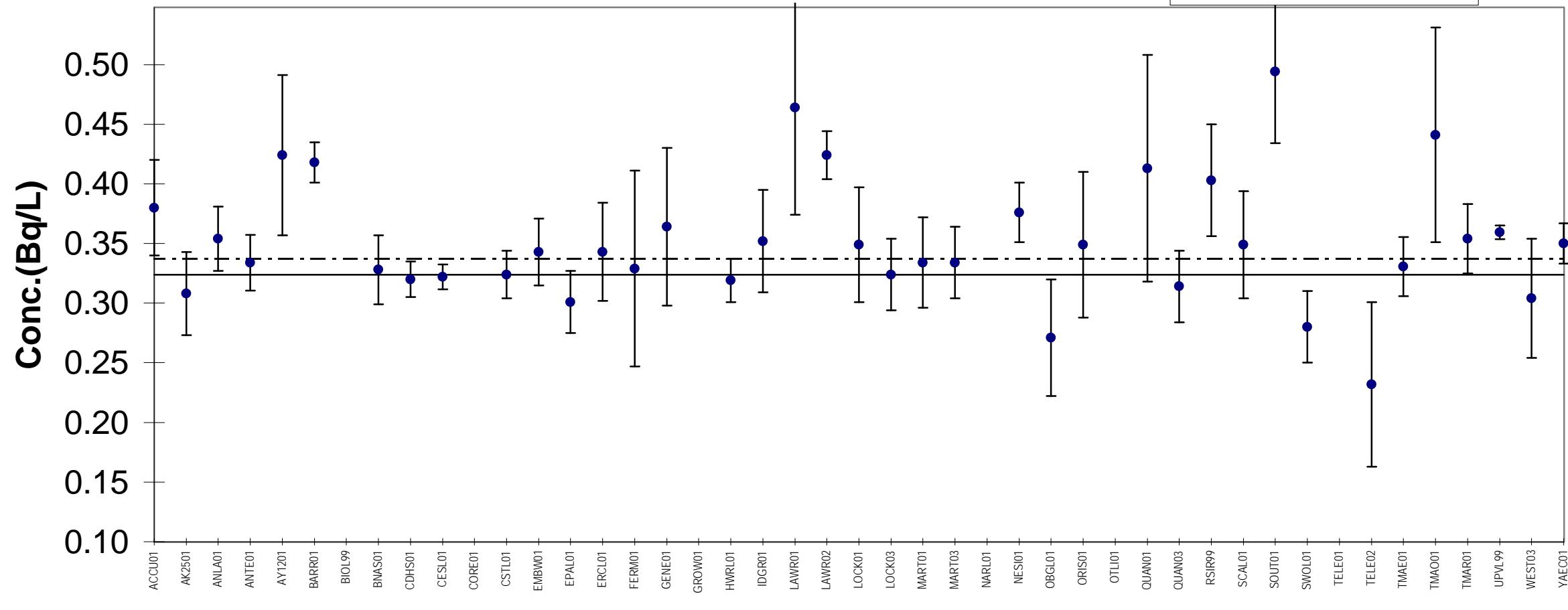
Strontium-90 MAPEP-99-W7

• Lab Result
— Ref. Value 8.19
- - - Mean 7.66



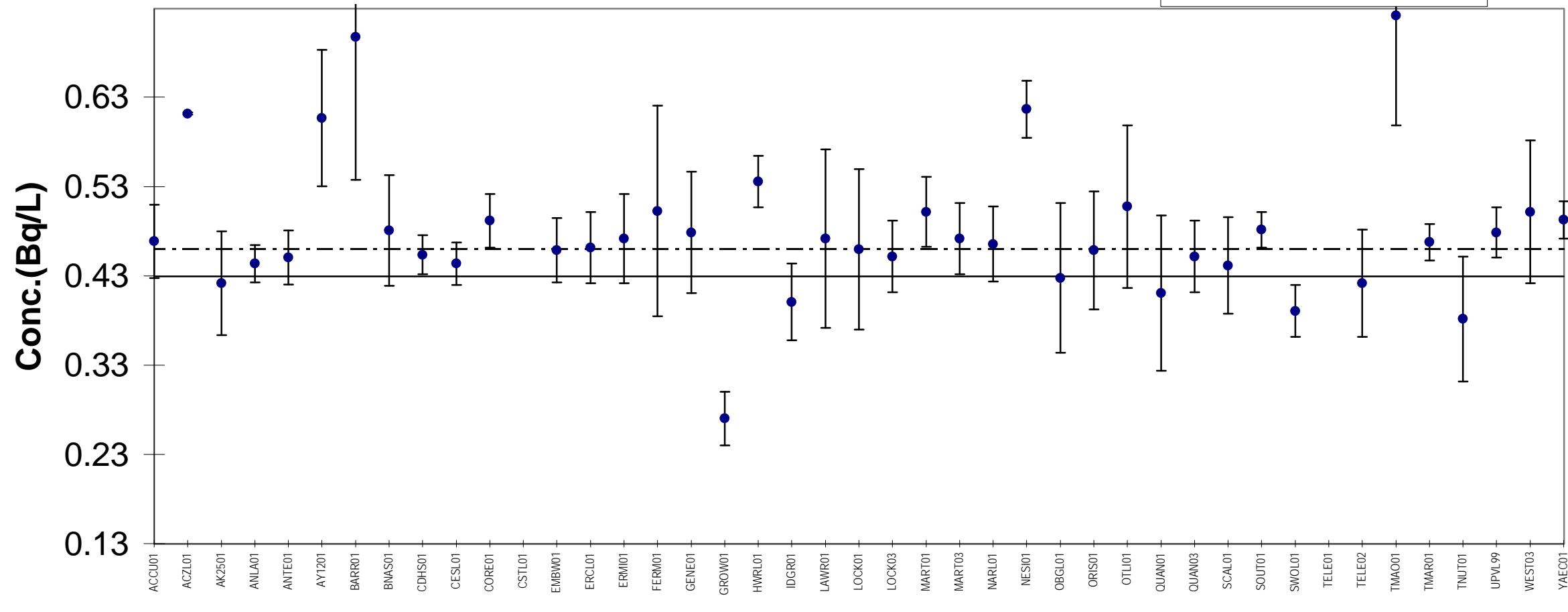
Plutonium-238 MAPEP-99-W7

• Lab Result
— Ref. Value 0.32
- - - Mean 0.33



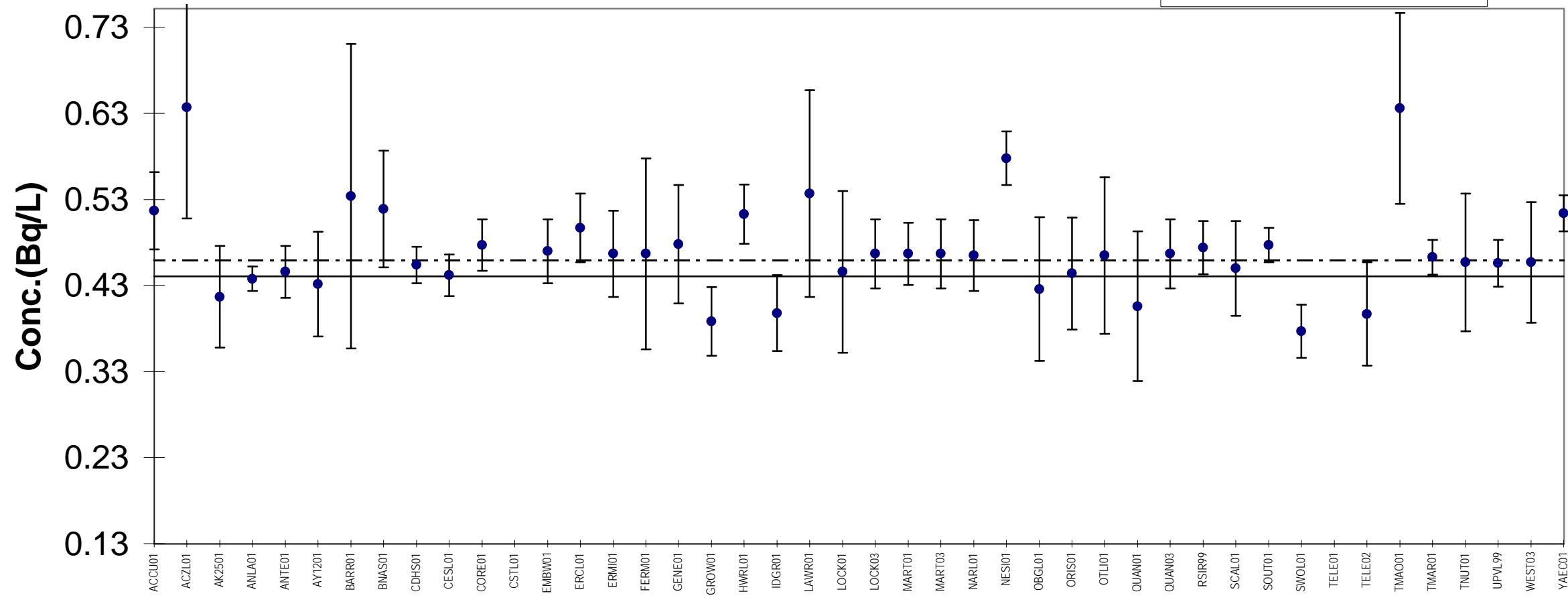
Uranium-234/233 MAPEP-99-W7

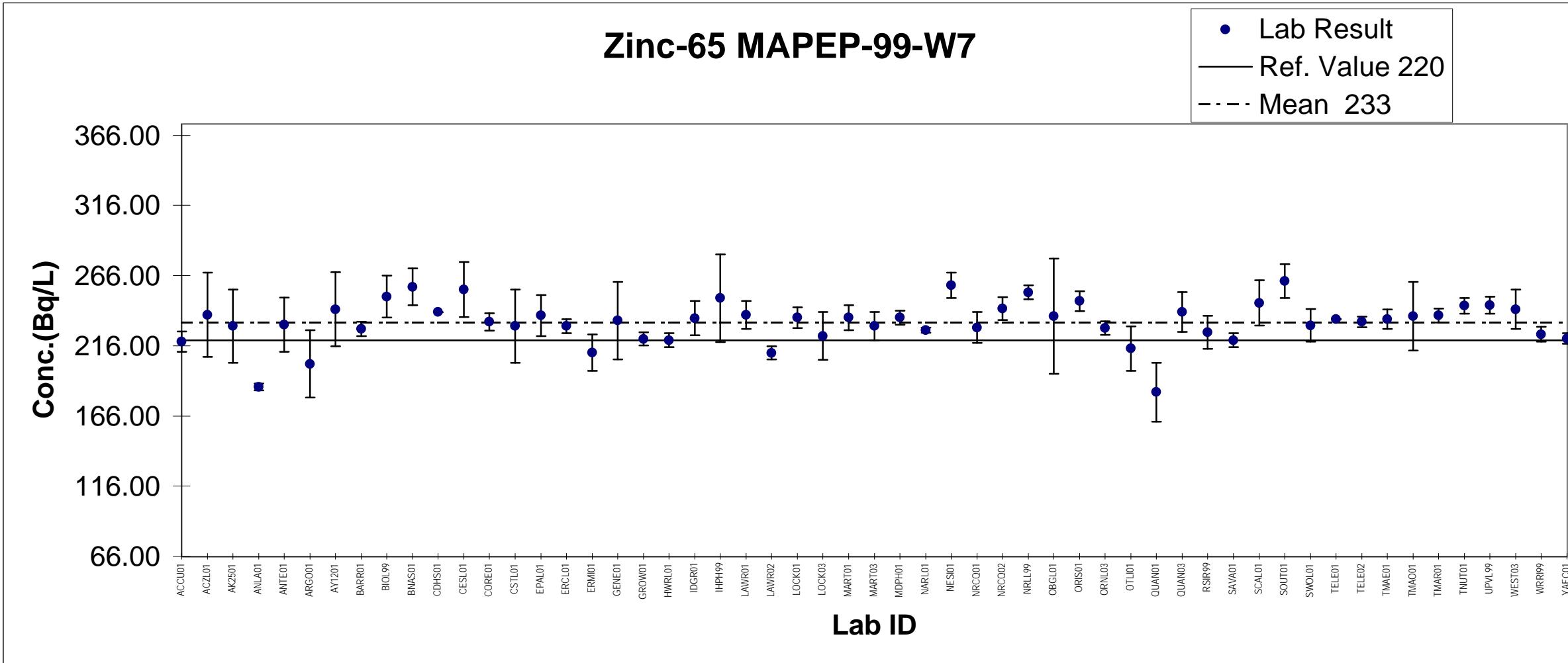
• Lab Result
— Ref. Value 0.428
- - - Mean 0.458



Uranium-238 MAPEP-99-W7

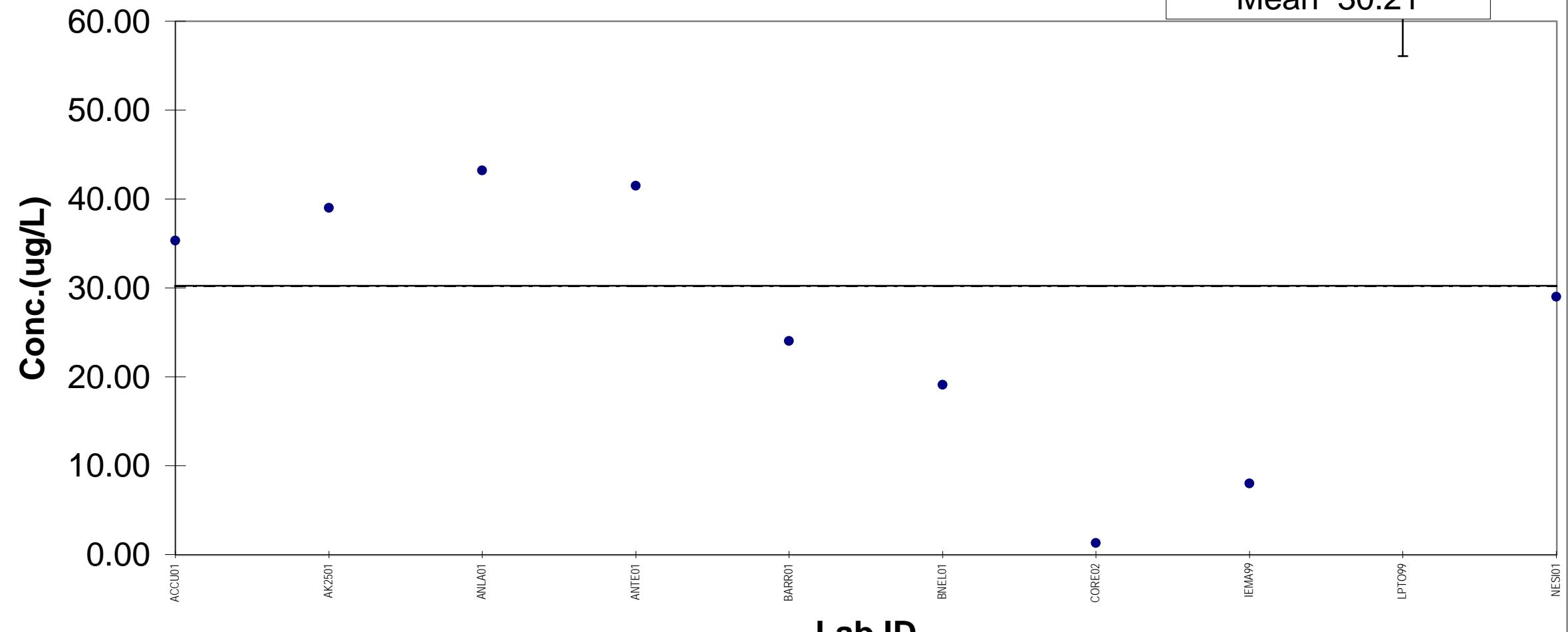
• Lab Result
— Ref. Value 0.444
- - - Mean 0.463





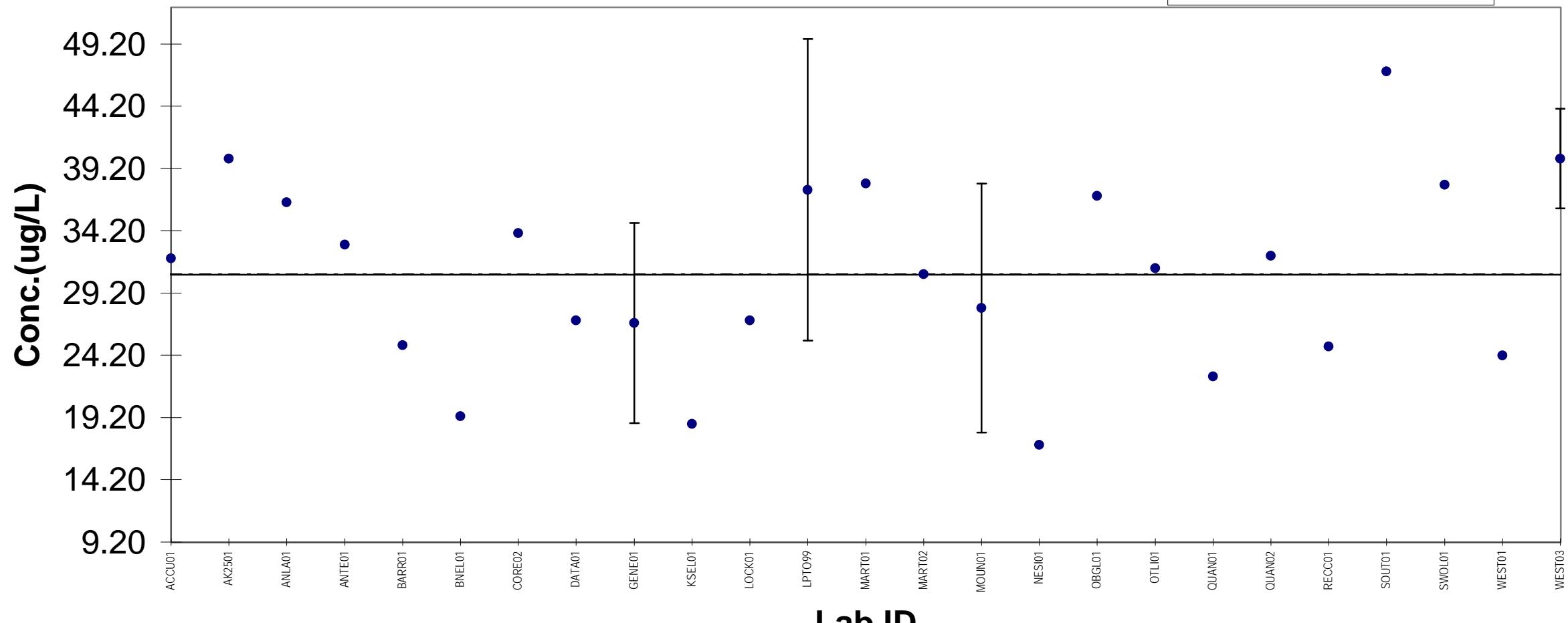
2-Chlorophenol MAPEP-99-W7

• Lab Result
— Ref. Value 30.21
- - - Mean 30.21



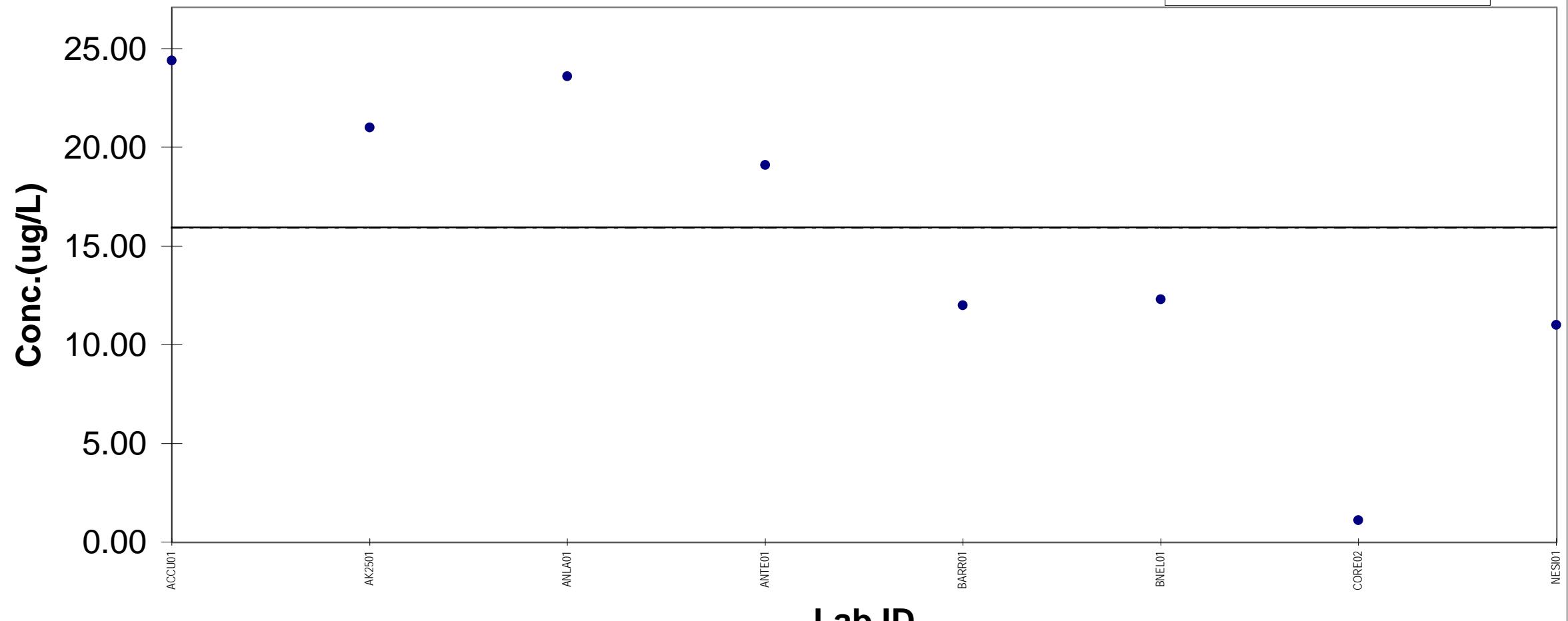
1,3-Dichlorobenzene MAPEP-99-W7

• Lab Result
— Ref. Value 30.68
- - - Mean 30.68



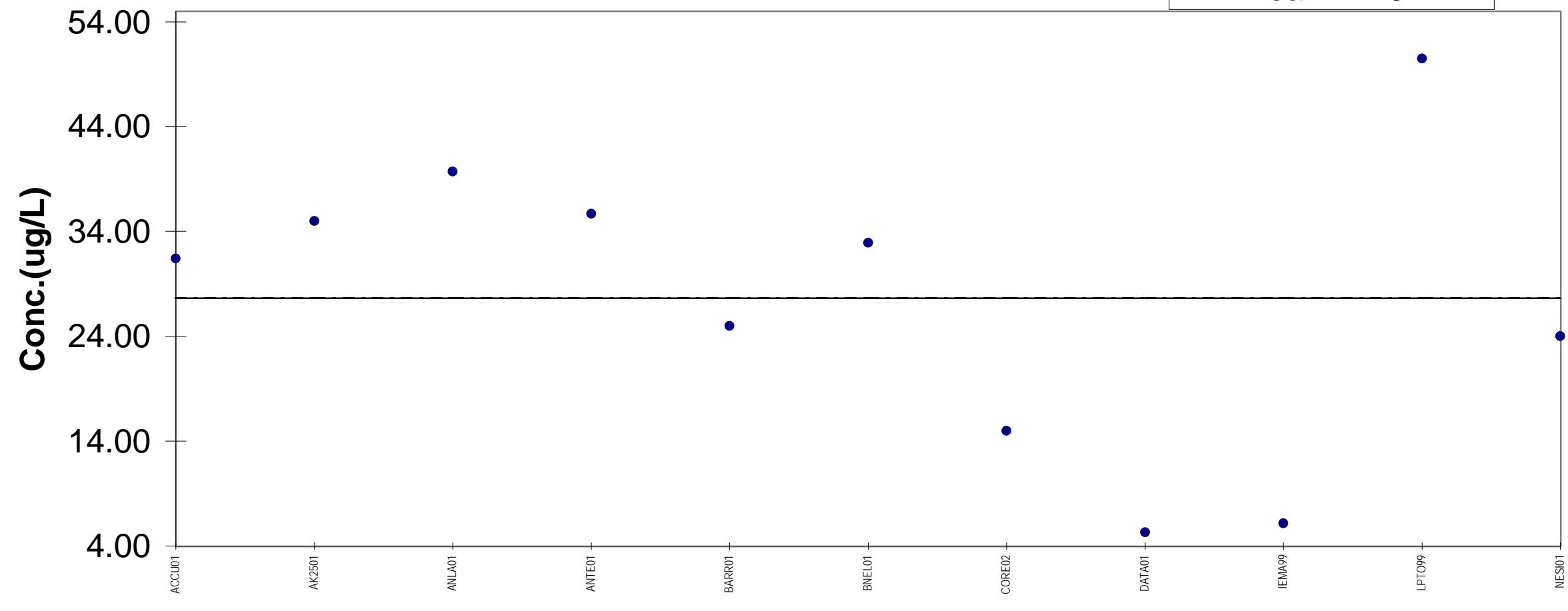
2,4-Dimethylphenol MAPEP-99-W7

• Lab Result
— Ref. Value 15.93
- - - Mean 15.93



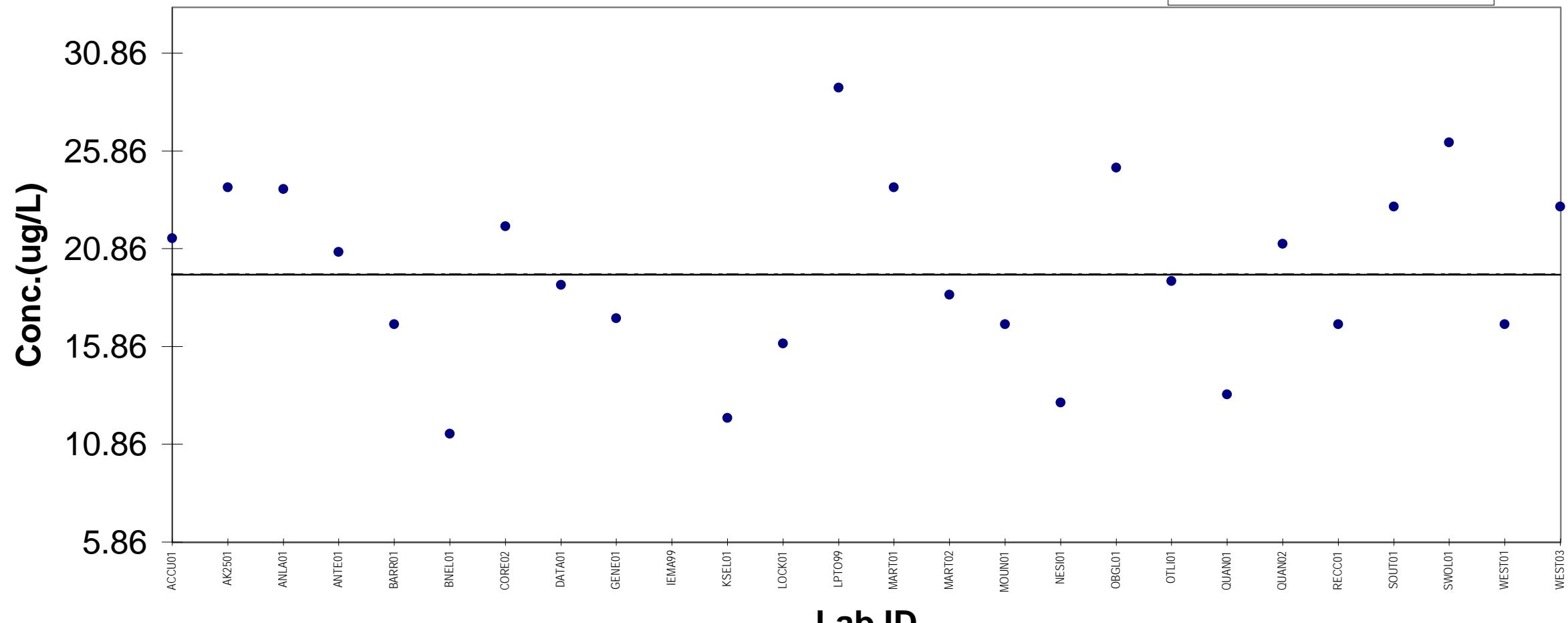
2,4-Dichlorophenol MAPEP-99-W7

• Lab Result
— Ref. Value 27.64
- - - Mean 27.64



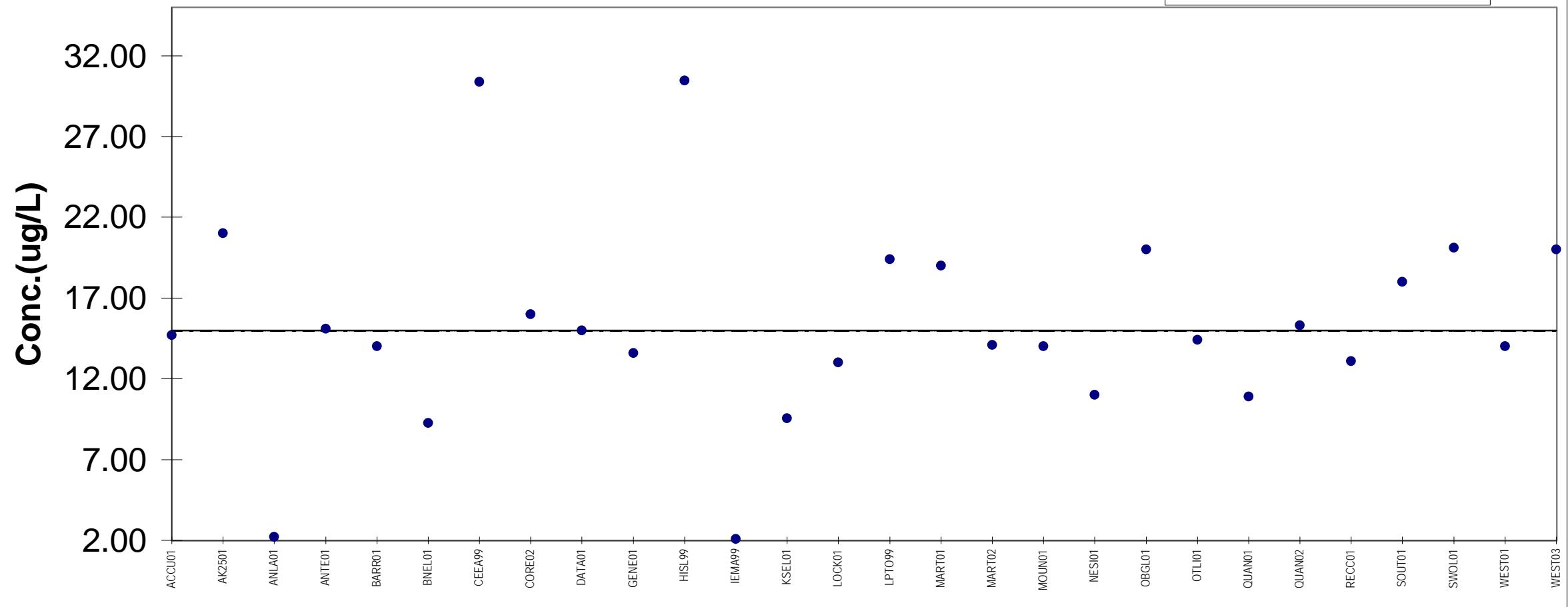
1,2,4-Trichlorobenzene MAPEP-99-W7

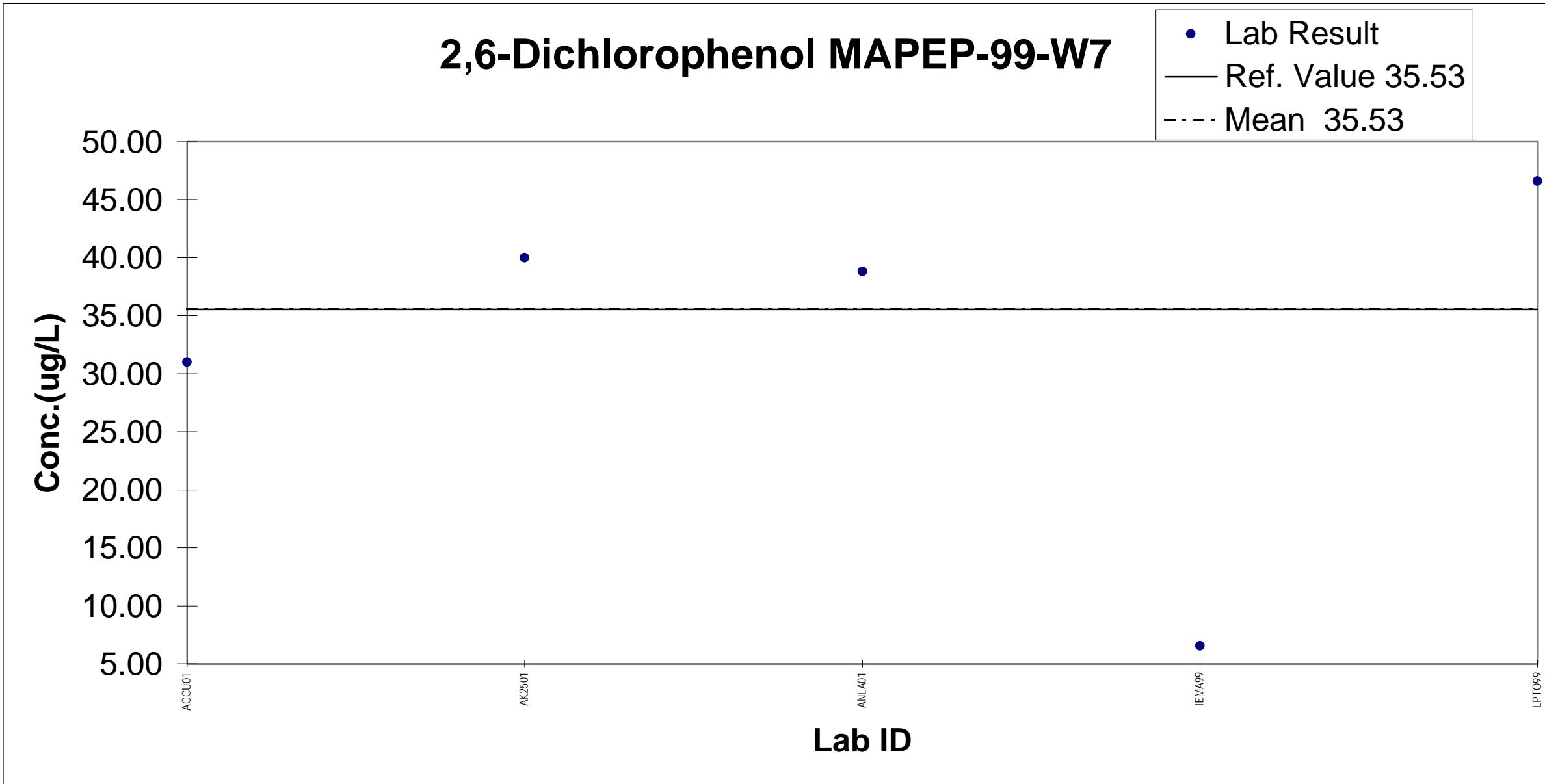
• Lab Result
— Ref. Value 19.53
- - - Mean 19.53



Naphthalene MAPEP-99-W7

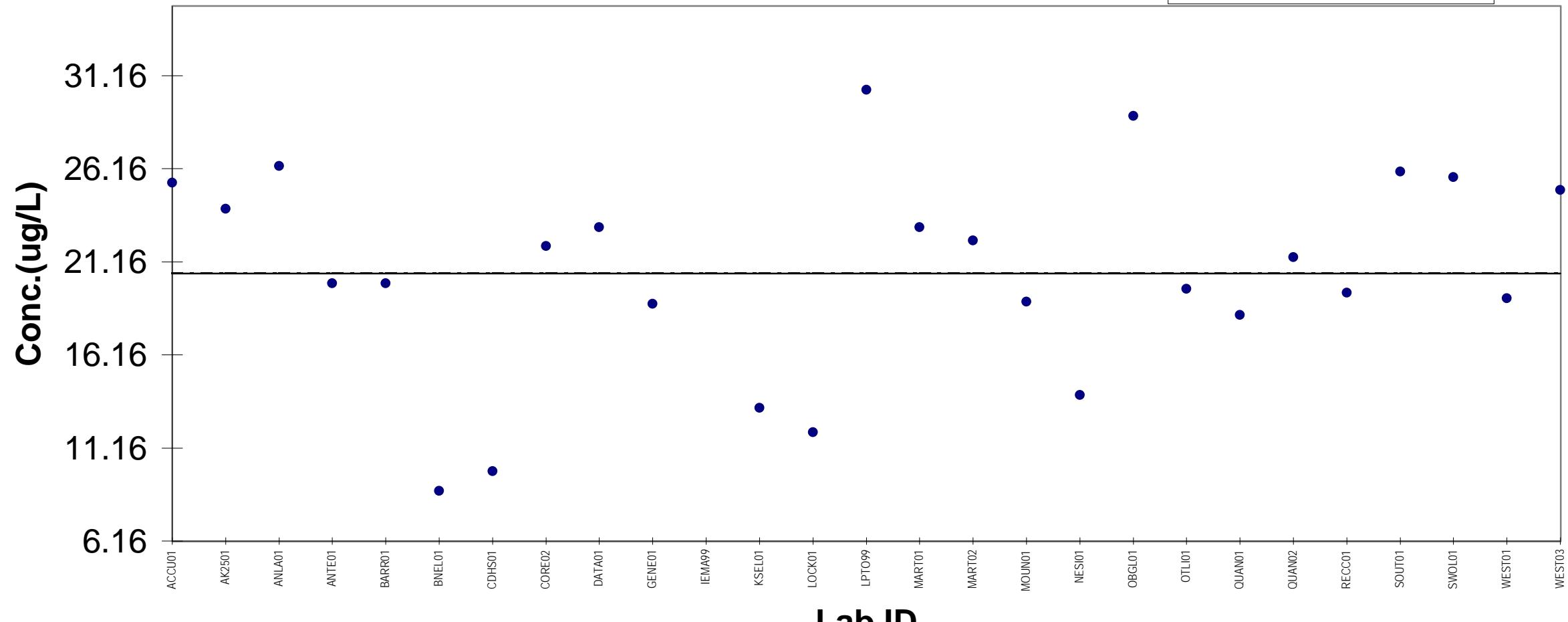
• Lab Result
— Ref. Value 14.98
- - - Mean 14.98





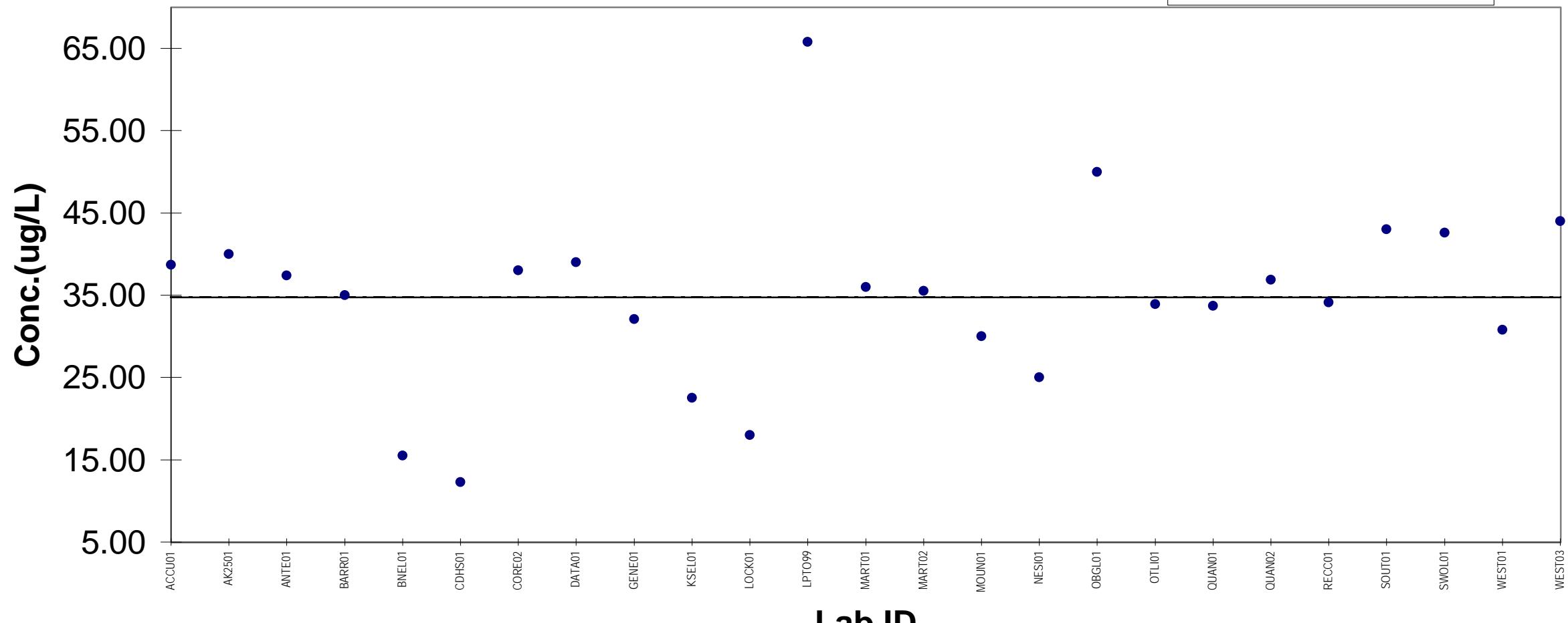
2,6-Dinitrotoluene MAPEP-99-W7

• Lab Result
— Ref. Value 20.52
- - - Mean 20.52



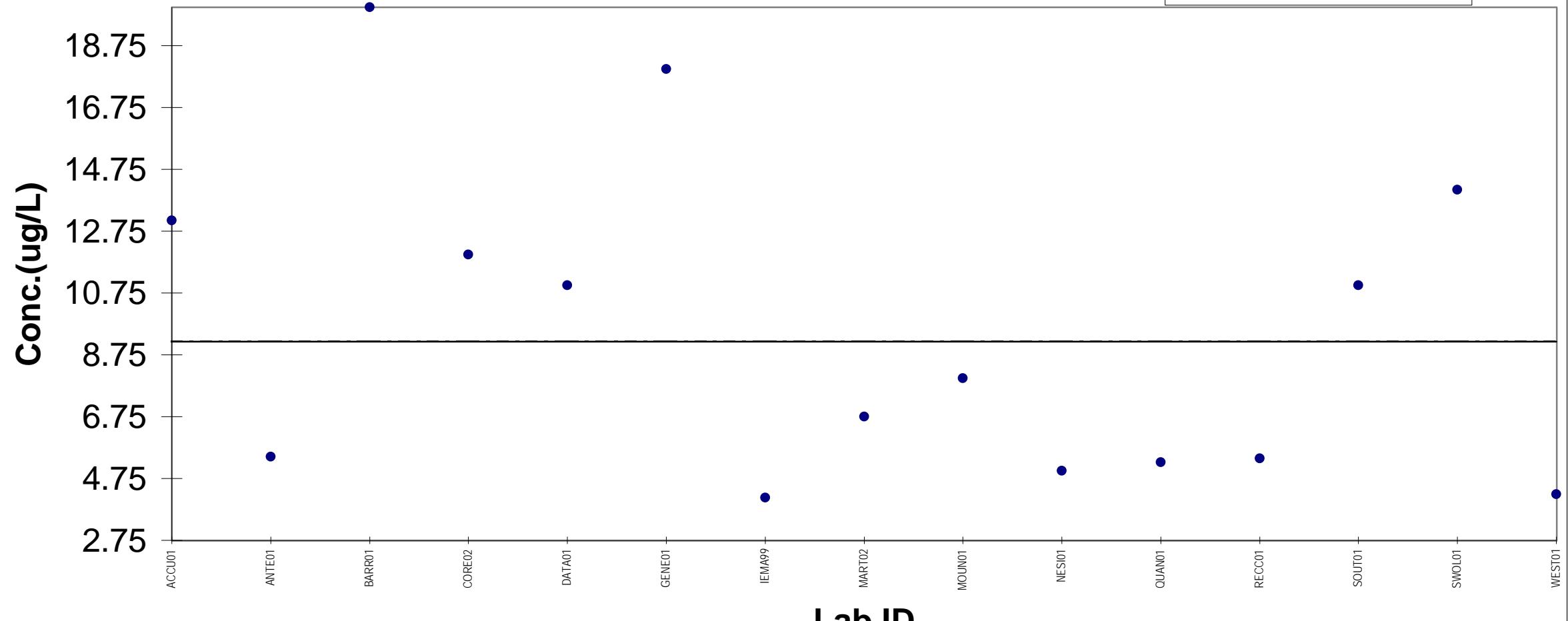
2,4-Dinitrotoluene MAPEP-99-W7

• Lab Result
— Ref. Value 34.71
- - - Mean 34.71



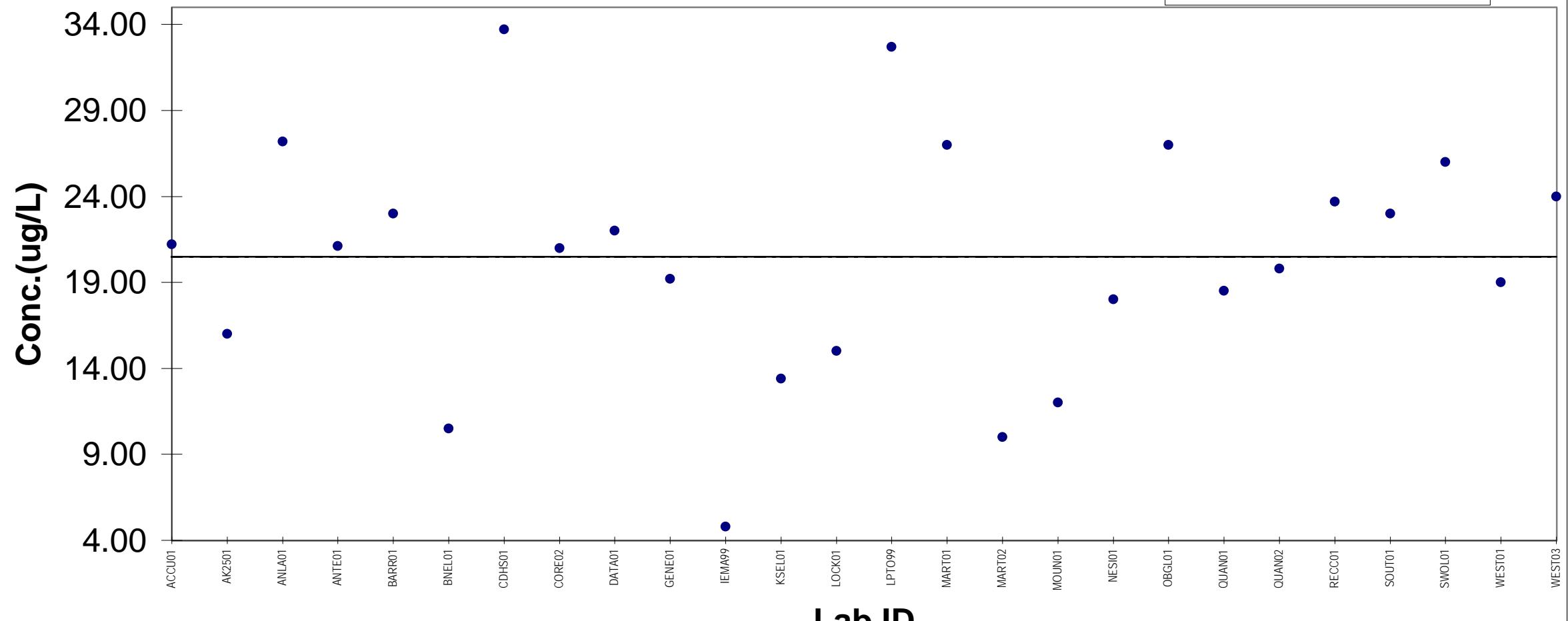
2,4-Dinitrophenol MAPEP-99-W7

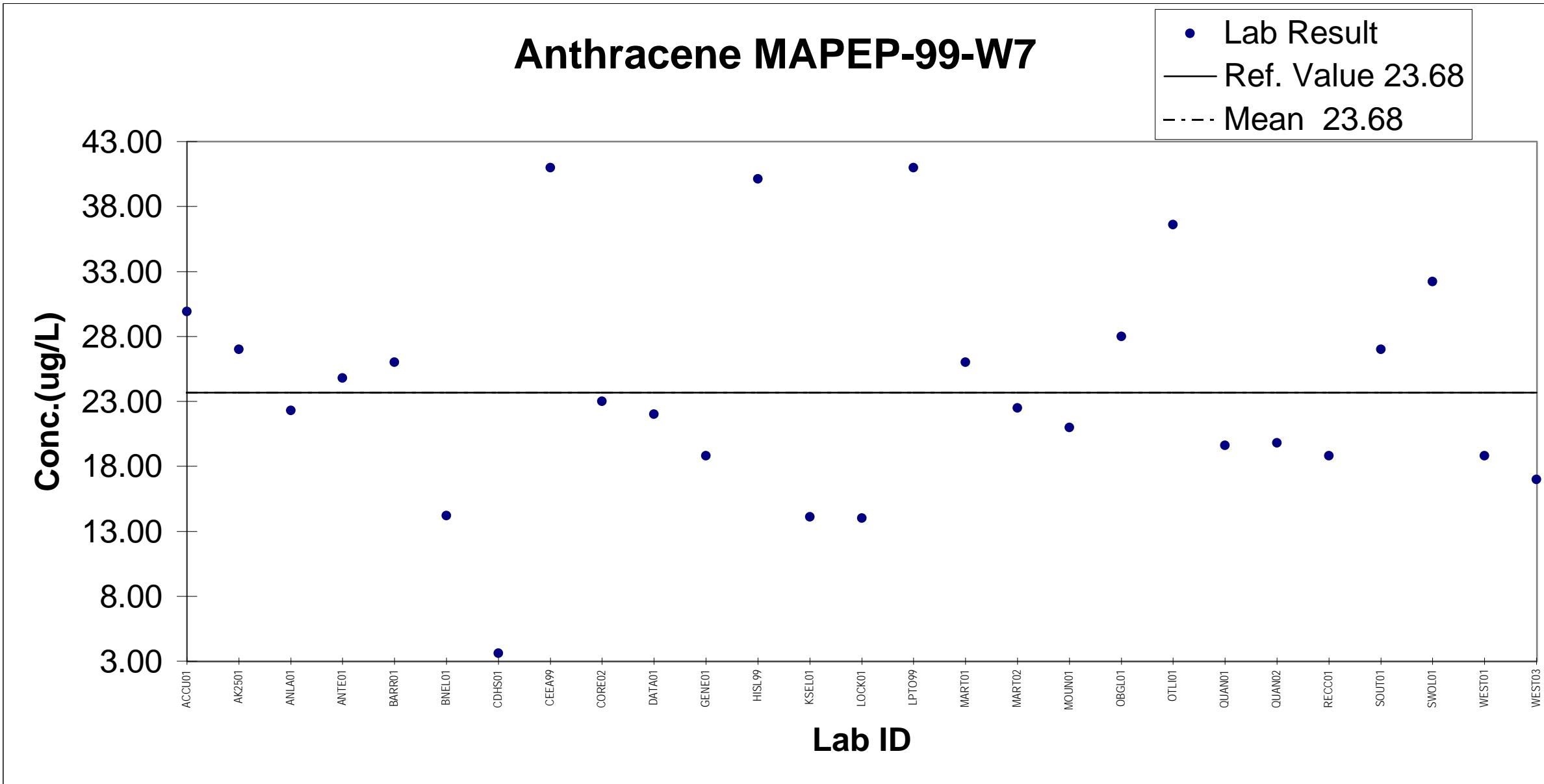
• Lab Result
— Ref. Value 9.18
- - - Mean 9.18



Diethylphthalate MAPEP-99-W7

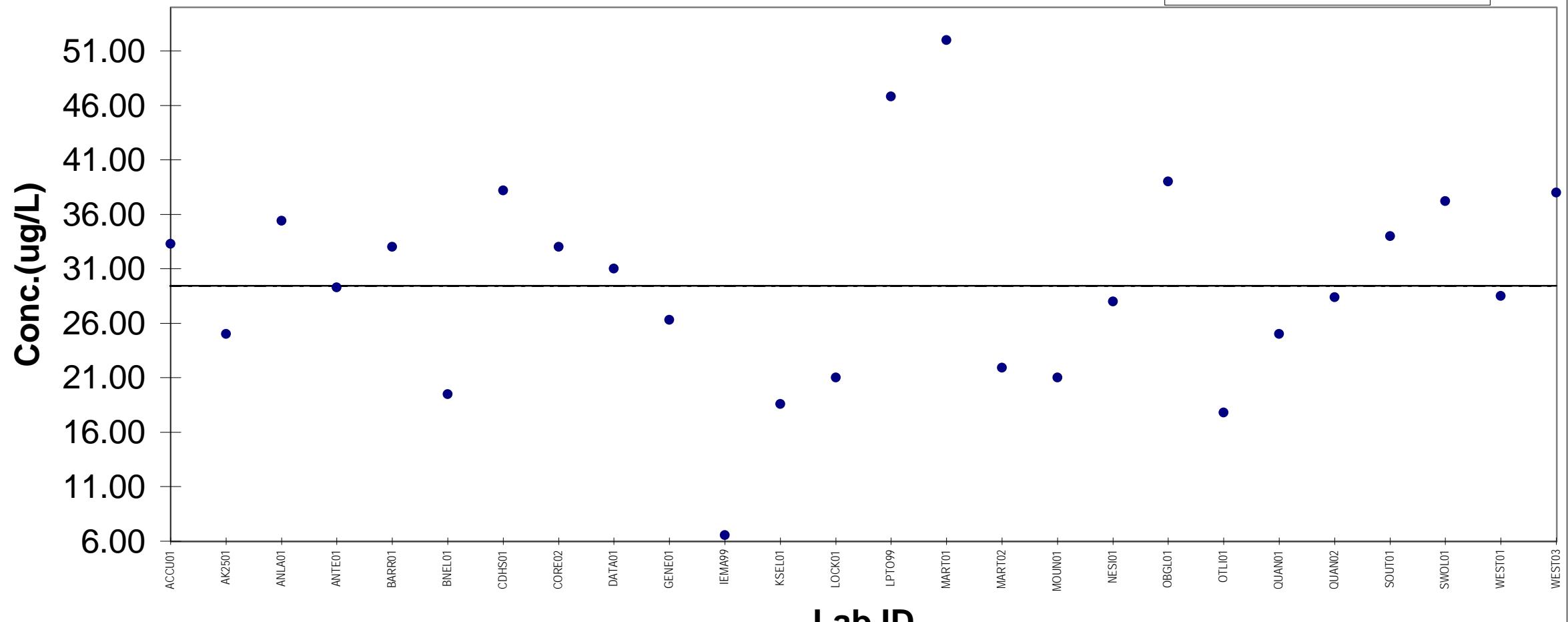
• Lab Result
— Ref. Value 20.49
- - - Mean 20.49





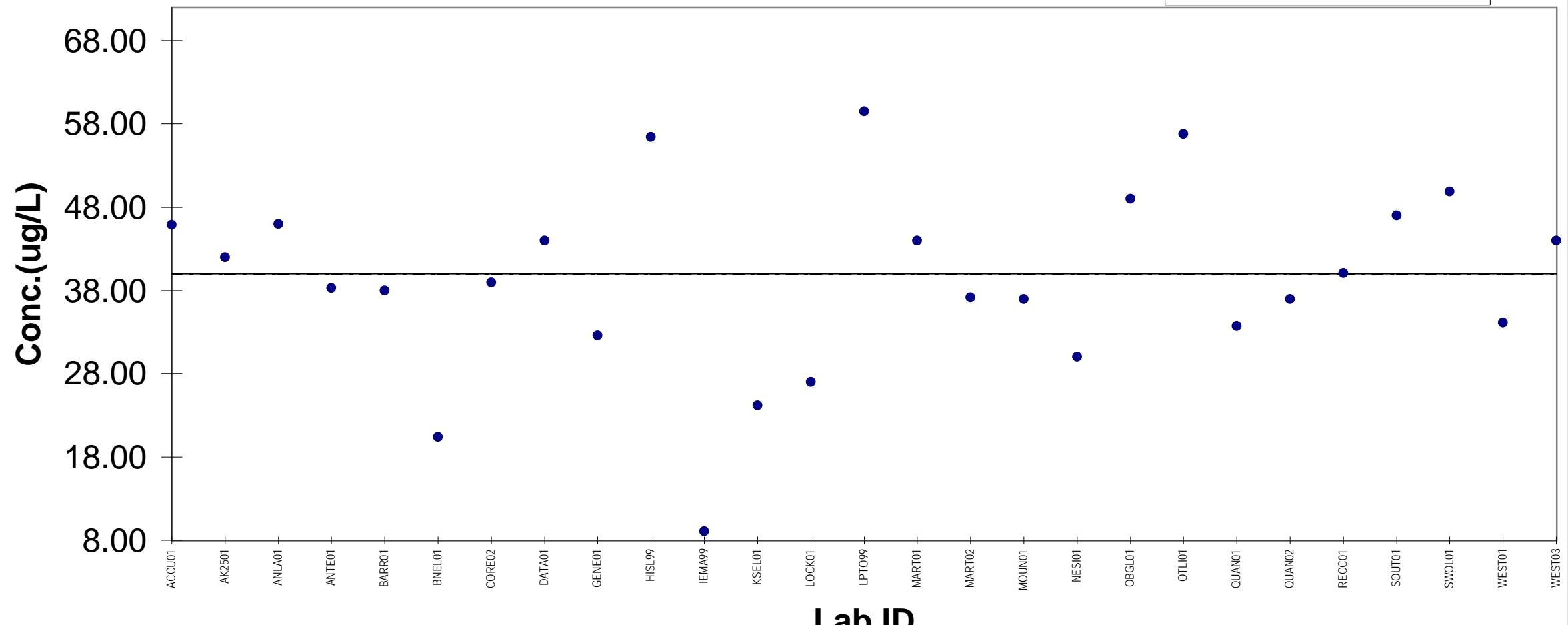
Di-n-butylphthalate MAPEP-99-W7

• Lab Result
— Ref. Value 29.42
- - - Mean 29.42



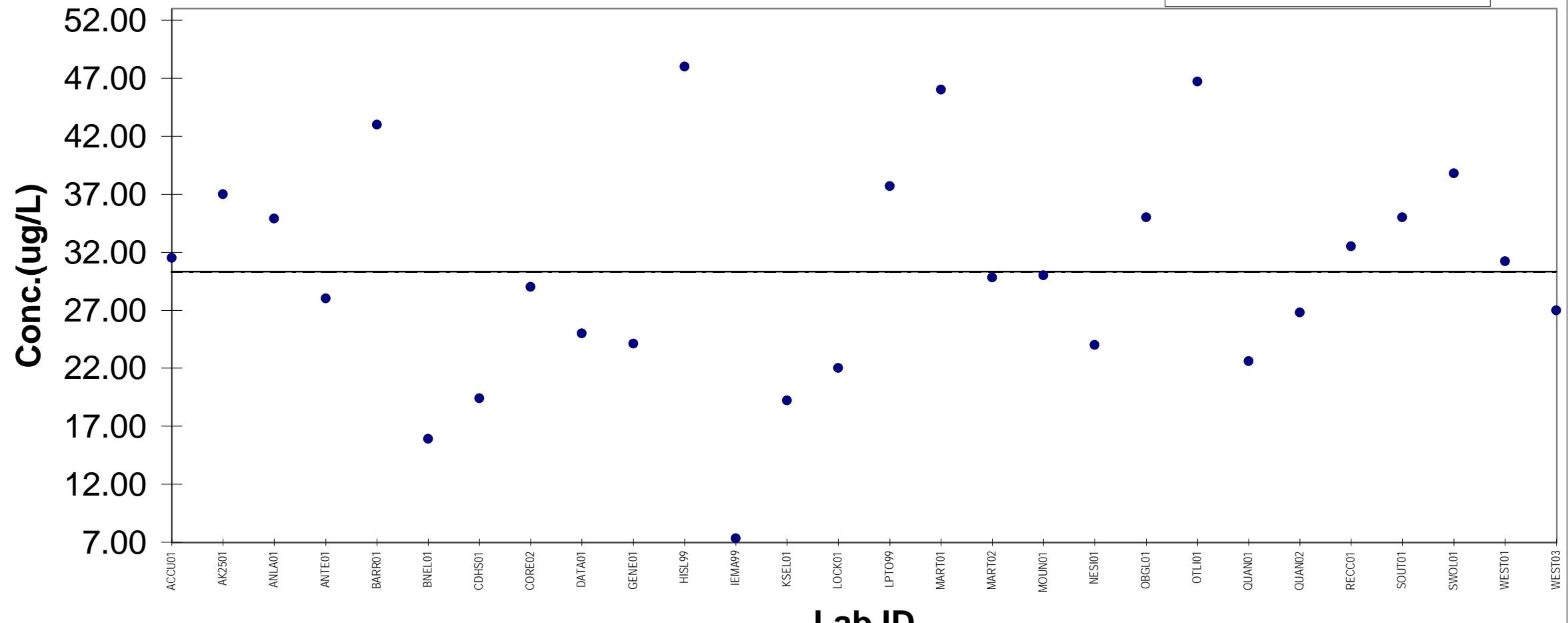
Fluoranthene MAPEP-99-W7

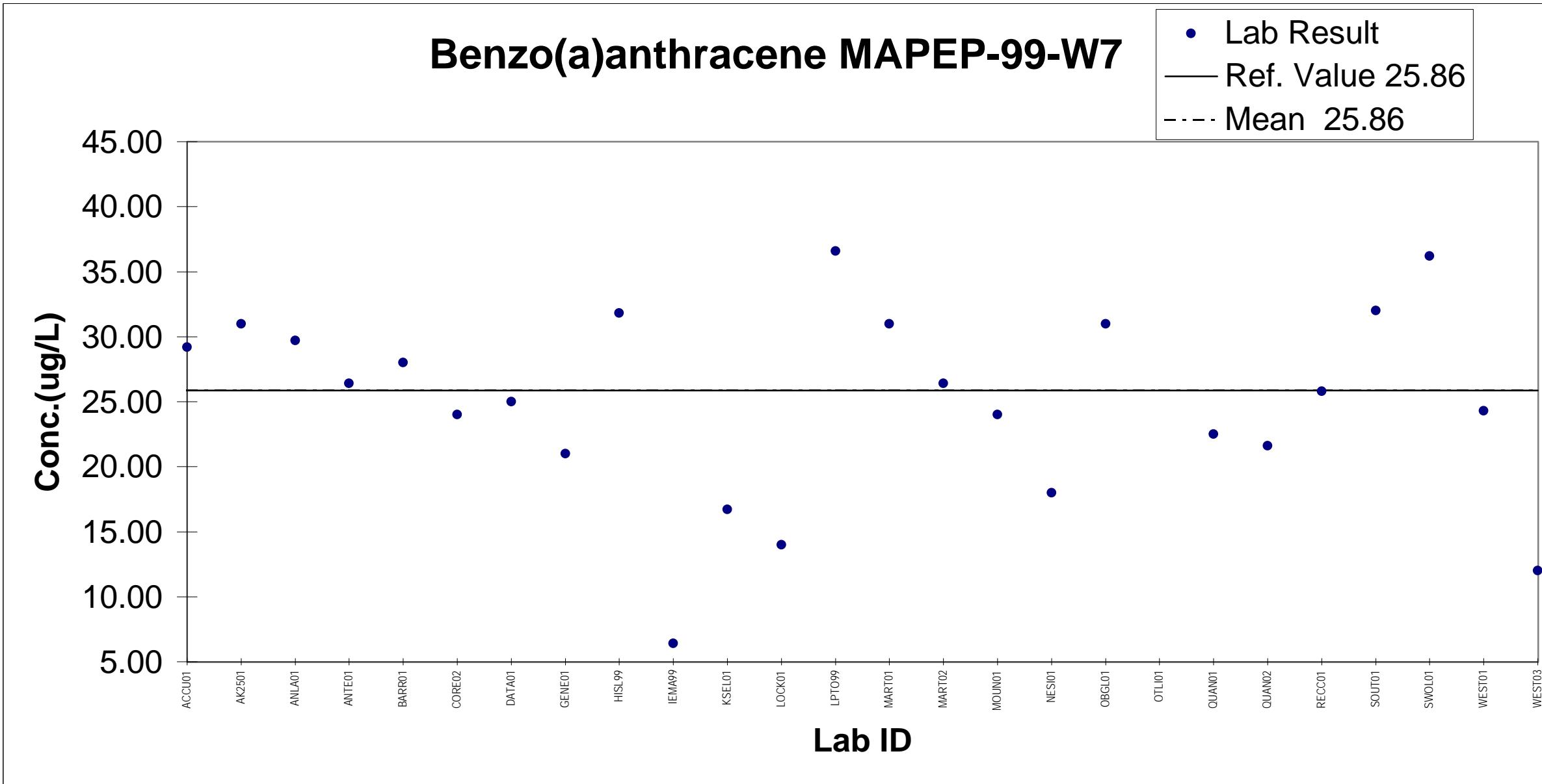
• Lab Result
— Ref. Value 40.06
- - - Mean 40.06



Pyrene MAPEP-99-W7

• Lab Result
— Ref. Value 30.31
- - - Mean 30.31





APPENDIX

D

MAPEP-99-W7 Reference Values

MAPEP-99-W7 Target Analyte Reference Values and Uncertainties

| | | |
|------------------------|------------------------------------|------------------|
| Antimony | <i>not added</i> | |
| Arsenic | 0.203 ± 0.004 milligrams/Liter | |
| Barium | 50.8 ± 0.8 milligrams/Liter | |
| Beryllium | 0.508 ± 0.010 milligrams/Liter | |
| Cadmium | 0.305 ± 0.005 milligrams/Liter | |
| Chromium | <i>not added</i> | |
| Copper | <i>not added</i> | |
| Lead | <i>not added</i> | |
| Nickel | <i>not added</i> | |
| Selenium | 0.203 ± 0.004 milligrams/Liter | |
| Silver | <i>added – Not Evaluated</i> | |
| Thallium | 0.508 ± 0.008 milligrams/Liter | |
| Vanadium | 0.711 ± 0.011 milligrams/Liter | |
| Zinc | 5.08 ± 0.08 milligrams/Liter | |
| | | |
| Americium-241 | 6.35 ± 0.06 E-1 | Becquerel/Liter |
| Cesium-134 | 8.29 ± 0.11 E1 | Becquerel/Liter |
| Cesium-137 | 7.27 ± 0.10 E1 | Becquerel/Liter |
| Cobalt-57 | 9.68 ± 0.13 E1 | Becquerel/Liter |
| Cobalt-60 | 2.70 ± 0.05 E2 | Becquerel/Liter |
| Iron-55 | 9.7 ± 0.2 E1 | Becquerel/Liter |
| Managenese-54 | 3.95 ± 0.04 E2 | Becquerel/Liter |
| Nickel-63 | 1.57 ± 0.03 E2 | Becquerel/Liter |
| Strontium-90 | 8.19 ± 0.10 E0 | Becquerel/Liter |
| Plutonium-238 | 3.20 ± 0.04 E-1 | Becquerel/Liter |
| Plutonium-239/240 | <i>not added</i> | |
| Uranium-234/233 | 4.28 ± 0.07 E-1 | Becquerel/Liter |
| Uranium-238 | 4.44 ± 0.07 E-1 | Becquerel/Liter |
| Zinc-65 | 2.20 ± 0.02 E2 | Becquerel/Liter |
| | | |
| Phenol | ‡ | micrograms/Liter |
| 2-Chlorophenol | 30.2 ± 13.9 | micrograms/Liter |
| 1,3-Dichlorobenzene | 30.6 ± 3.5 | micrograms/Liter |
| 2,4-Dimethylphenol | 15.9 | micrograms/Liter |
| 2,4-Dichlorophenol | 27.6 ± 10.3 | micrograms/Liter |
| 1,2,4-Trichlorobenzene | 19.5 ± 2.1 | micrograms/Liter |
| Naphthalene | 15.0 ± 2.0 | micrograms/Liter |
| 2,6-Dichlorophenol | ‡ | micrograms/Liter |
| 2,4,6-Trichlorophenol | 45.6* | micrograms/Liter |
| 2,6-Dinitrotoluene | 20.5 ± 2.5 | micrograms/Liter |
| 2,4-Dinitrotoluene | 34.7 ± 3.8 | micrograms/Liter |
| 2,4-Dinitrophenol | 9.2 ± 3.1 | micrograms/Liter |
| Diethylphthalate | 20.5 ± 2.9 | micrograms/Liter |
| Anthracene | 23.7 ± 3.5 | micrograms/Liter |
| Di-n-butylphthalate | 29.4 ± 3.9 | micrograms/Liter |
| Fluoranthene | 40.1 ± 4.4 | micrograms/Liter |
| Pyrene | 30.3 ± 3.9 | micrograms/Liter |
| Benzo(a)anthracene | 25.9 ± 3.2 | micrograms/Liter |

* component not added – see discussion Page 6

‡ component added, but insufficient number of labs to develop reliable statistics

